

A free world education eBook

# CASEBOOK

OF

# BIBHAS DE

## THE MYSTERY OF THE HANFORD EMPATHS

LIGO OBSERVATORY'S NOBEL-WINNING  
DISCOVERY OF GRAVITATIONAL WAVES

The author previously exposed Penzias-Wilson blackbody scam, COBE fraud, and BICEP2 quackery. All were covered up by the physics establishment.

The LIGO fraud is following the same script.

They never retract fraudulent discoveries.

They are never accountable to the society.

But lone science frauds are sent to prison.



## **CASEBOOK OF BIBHAS DE**

*The Mystery of the Hanford Empaths*

Two massive mirrors hang on a vast field in Hanford, Washington. They are about 6 kilometers apart. Each hangs freely from an overhead structure. When a gravitational wave rains down on the meadow, the mirrors start to sway in concerted motion. And with that special concert of the meadow, gravitational wave astronomy is born. There is absolutely no scientific evidence – direct, indirect, or elsewise – that the mirrors perform this gig. But there is averral that this happens. The solution: The mirrors are empaths. Outsiders cannot observe how they emote when the gravitational wave rains down on them. Only LIGO *knows*.

Where empathy leaves off, LIGO wisdom begins.

**Duty to Inform**  
Bibhas De warns the world



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## PREFACE

As I write this, most everyone in the world who reads or watches or hears or otherwise receives news has been exposed to the exploits of those magnificent men behind their discovery machine called LIGO (Laser Interferometer Gravitational-Wave Observatory.) The epic saga was recently gilded nicely by the award of the Nobel Prize in Physics, 2017.

This eBook tells you the true story behind the gilded false front, the story that the media did not tell the world. But before proceeding to the further pages of the book, the reader needs a little orientation.

When a billion-dollar scientific project has been built and entrenched - with real estate and buildings and bureaucracy and hardware and manpower - results will come out. No doubt about it. There will be intricate graphs and false-color visualizations and loads of math and oodles of jargon. The team also includes scribes who will transform all this information into a neatly turned out manuscript ready to be couriered to *The Physical Review Letters*. The editors of *PRL* will go through their customary motions and the discovery will be published. With that imprimatur, the Nobel Prize would be practically in the bag.

This is the process that just happened with the LIGO project. A while ago this exact process happened with the BICEP2 Telescope project. And before that there was the COBE Satellite project developing the same way.

I have exposed the COBE scientific papers as fraud. I have exposed the BICEP2 papers as quackery. Now I expose LIGO papers as fraud.

I have a book on LIGO fraud, *Unchallenged Privilege*, subtitled *The Billion-dollar trilateral Gravitational-Wave Discovery Scam* (in two editions), available to purchase. The present online free eBook is composed largely of material from my blog site *The Dreamheron Chronicles* ([dreamheron.wordpress.com](http://dreamheron.wordpress.com)). While the posts in that site were made in response to events unfolding, I have felt that a thematically organized presentation of some of that material may have some educational benefit.



# INTRODUCTION TO LIGO

Laser Interferometer Gravitational Wave Observatory (LIGO) has a long and storied history. It is today one of the most expensive and longest-running physics research projects in the United States. It has been funded throughout its existence by the American taxpayers through the National Science Foundation (NSF). It is organized as a joint project mainly between the California Institute of Technology (Caltech) and the Massachusetts Institute of Technology (MIT). However, the LIGO Scientific Collaboration, consisting of some 1000 members, is made up of researchers from many American and international centers of research. By February of 2016 when the first detection of gravitational wave was reported, the project was said to have cost \$1.1 billion, coming from NSF and international partners.

Following the report of the first discovery, the most visible personalities behind LIGO emerged to be Kip S. Thorne, Feynman Professor of Theoretical Physics (emeritus) at Caltech; Rainer Weiss, Professor of Physics (emeritus) at MIT; and the NSF Director France A. Córdova. The official operational head of LIGO, then as now, is David Reitze, Professor of Physics at the University of Florida.

It is Thorne, a theoretician specializing on gravitation, who is credited with the inception of LIGO, starting as early as 1968. Weiss, an instrumentation expert, later teamed up with Thorne. After various ups and downs, the project broke ground in 1994. Meanwhile a third member Ronald Drever, a Scotsman from Glasgow, had joined Thorne and Weiss. Drever joined the Caltech physics faculty. The trio would come to be known as the founders of LIGO.

The purpose of the LIGO instrument is to try to detect gravitational waves from catastrophic and transient cosmological events that suddenly release enormous amounts of energy in the form of such waves. Gravitational waves are propagating compressions and expansions of space. A rough analogy would be sound waves which are propagating compressions and expansions of air. Space is empty, but it can undergo compressions and expansions. It is the space itself that expands and contracts. Gravitational waves are theorized to travel at the speed  $c$  ( $= 3.10^8$  m/s), the speed of light.

There are a few conceivable strong sources of gravitational wave in the Universe: supernova explosions, mergers of binary neutron stars and binary black holes, and the original Big Bang explosion itself. When such events occur, a portion of the constituent mass is converted to energy in the form of gravitational waves which spread out in the Universe. What we expect to observe on Earth is a transient wave of short duration, perhaps showing only a few cycles of the wave. Such a trace is called a waveform.

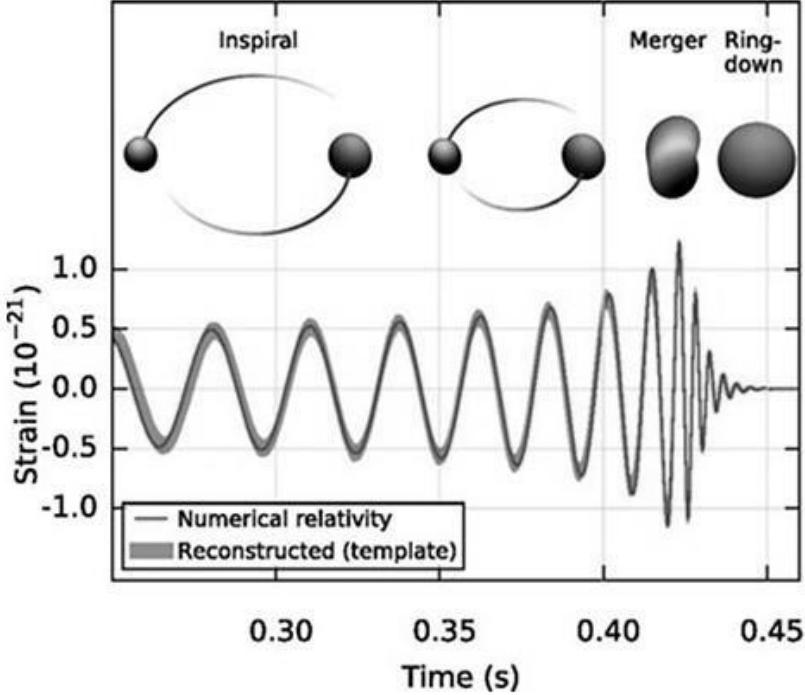


Figure 1: Binary black hole merger and definitions of the terms inspiral, chirp and ringdown. Chirp refers to the evident increase in frequency and amplitude with time.

[Image courtesy: Quora]

The LIGO researchers have developed theoretical models and computer simulations therefrom to predict what a gravitational waveform would look like from such an event. Here we are concerned only with the merger of two black holes. In this model two black holes of masses  $m_1$  and  $m_2$  approach each other as they spiral in. Even as they do so, they begin to release energy in the form of the said wave. The frequency of the wave is twice the orbital frequency of the black holes. The shape of the wave, or the waveform, produced as the two black holes spiral and approach each other is labelled *inspiral* (Figure 1). The closer the two bodies get, the faster is the orbital frequency and greater the rate of energy release. Hence the frequency and the amplitude of the gravitational wave at this stage increase with time. This phenomenon is called *chirp*. When the black holes are near merger, they are moving at velocities close to that of light. Eventually, the two black holes physically merge into one, where the merged black hole ends up with a mass somewhat less than  $m_1 + m_2$ . The difference in mass is what has been converted to energy in accordance with the mass-energy relation.

The merged black hole at this time has a shape that is highly deformed from the expected final spherical shape. As it assumes this spherical shape it continues to emit the wave with diminishing energy. This is the *ringdown* stage. After that everything settles.

Inspiral, chirp and ringdown - these are said to be the three signatures in an observed waveform due to a gravitational wave from binary black hole merger. This combination cannot be produced by any other conceivable sources of the signal.

This is the type of waveform the LIGO researchers would be searching in the data traces they gather as LIGO looks to the sky. This is their quest.



The function of the LIGO instrument is to detect and measure the compression and expansion of space as a gravitational wave train travels past the Earth. Consider a plane perpendicular to the direction of wave propagation. As the wave compresses space in one direction in this plane, it causes the space to expand in the orthogonal direction in the plane. This is due to a theorized property of gravitational waves called polarization. The instrument is designed to detect the differential effect of the wave in the two orthogonal directions (rather than an absolute measurement in each of the two directions.) The instrument does so by employing the principle of laser interferometry, a well-tested technique not in question.

Refer to Figure 2. There are two orthogonal directions AB and CD. The distances AB and CD are exactly the same ( $=l$ ). The test masses A and C are fully reflecting mirrors at the end of these two arms. The test masses B and D are partially reflecting and partially transmitting mirrors. All the mirrors are suspended from the LIGO support structure like pendulums. There is a source of the laser beam ("laser"). And there is a photodetector which detects the laser light incident on it, i.e. it converts the incident light to a dc voltage proportional to the strength of the light. This voltage is the actual LIGO measurement.

Now we will follow the laser beam along its path as it leaves the source. As it hits the beam splitter, by the property of this device, half the power in this beam proceeds along the path BA and the other half proceeds along DC.

The first part of the light is reflected from A and hits the beam splitter. Half of this light now proceeds towards the source and half towards the photodetector.

The second part of the light is reflected from D and hits the beam splitter. Half of this light proceeds towards the source and half towards the photodetector.

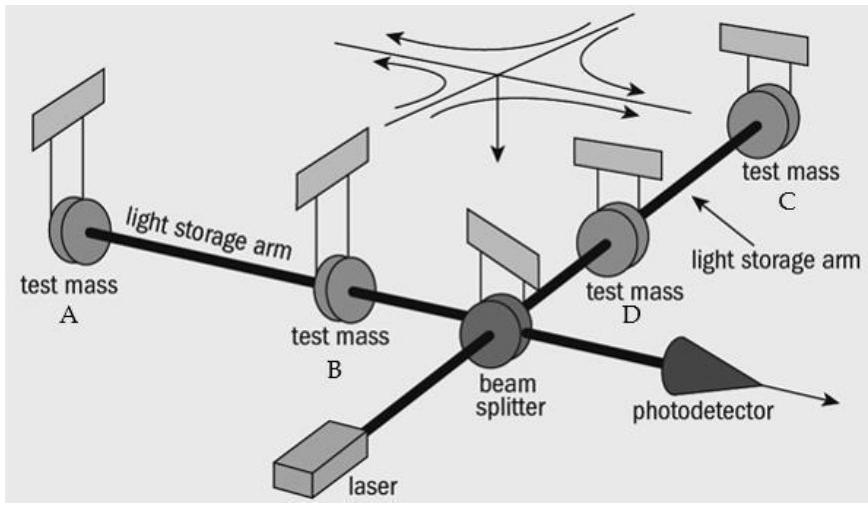


Figure 2: Simplified schematic of the LIGO instrument: The length of the arm AB (=the length of the arm CD) = 4 km. The mirrors are made of fused silica with dielectric coating. Diameter of mirror A or C = 34 cm; thickness of mirror = 20 cm; mass of mirror A or C (test mass) = 40 kg; laser beam radius = 5.3 – 6.2 cm; wavelength of laser light,  $\lambda_{\text{laser}} = 1064 \text{ nm}$  (near infrared); laser polarization = linear horizontal; laser power transmitted = 125 watts. [Image source: LIGO]

The two parts of the beam that arrive back at the source have traveled exactly the same distances in exactly the same time and are now exactly in phase. Therefore, they add to one another. In other words, they interfere constructively. We need not discuss this further.

The two parts of the beam that arrive at the photodetector have traveled exactly the same distances in exactly the same time. But one beam has suffered an extra reflection and hence the two beams are now 180 degrees out of phase. Therefore, they cancel one another. In other words, they interfere destructively. The photodetector sees zero light. It is dark.

So, because the orthogonal arms are of the same length, the light incident on the photodetector is zero. If the two arms become of unequal length for some reason, one beam will take slightly longer time (longer by  $\Delta t$ , say) than the other to arrive at the photodetector. The detector will now see a small amount of light because the phases of the arriving waves will differ slightly from 180 degrees. As a result there will be a nonzero phase shift  $\Delta\varphi$  between the two arriving beams.

This is the rudimentary principle of operation of the instrument. If a gravitational wave travels past it in an arbitrary direction, it will cause the length of one arm to be compressed (e.g., the mirrors A and B will be closer together) and that of the other arm to be expanded (mirrors C and D will be farther apart) at the same time. The resulting path difference  $\Delta l$  ( $= c \Delta t$ ) between AB and CD will cause an amount of light to shine on the photodetector. This bit of light is used by the instrument to

quantify the movement  $\Delta l$ . This quantity is related to the phase shift by  $\Delta l = (\Delta\phi / 4\pi) \lambda_{\text{laser}}$ . Here  $\lambda_{\text{laser}}$  is the wavelength of the laser light used.

All this happens at one instant of time. At the next instant, the quantity  $\Delta l$  will change as the gravitational wave moves a tiny bit further past the instrument. Now it will be determined again. In this way  $\Delta l$  (plotted against the time  $t$ ) will trace out the passage of the wave, essentially mimicking the waveform.

The longer the arms are, the larger is  $\Delta l$  and hence the larger the phase shift and the larger amount of light that arises at the photodetector. More light here means better and more accurate measurement and better threshold of detection. This is the incentive for making the arms AB and CD as long as practical.

The arms of LIGO are 1.2 m-diameter steel tubing sealed at the ends. The space inside the tubing is evacuated to a high degree in order to prevent gas molecules from degrading the laser beam and causing unwanted vibrations of the mirrors.

There are here two types of mirror movement one is concerned with:

(1). The mirror moves because of natural (e.g., seismic tremors) or man-made vibrations (e.g., a heavy vehicle driving by), or because of the effect of currents generated in the metal structures due to geomagnetic disturbances.

(2). The mirror “moves” because of the passage of a gravitational wave. This is not a conventional movement or displacement. It is the space itself that is expanding and contracting along with everything that is in it. So, the mirrors A and B for example will be closer together sometime and farther apart sometime compared to where they were before the arrival of the wave. The same is true of the mirrors C and D. This closer-farther sequence is what is loosely described as ‘movement’.

LIGO reports its measurements in terms of *strain* which is the fractional change in length of a LIGO arm (strain  $h = \Delta l / l$ ). A typical black hole merger event has been estimated theoretically to produce a strain of 1 part in  $10^{21}$ . This degree of smallness of the signal has been communicated to the general public by the LIGO scientists as follows: The LIGO instrument needs to be able to measure a mirror movement that is less than 1/10,000th the diameter of a proton. While the diameter of a proton is a complex concept, for our purposes here it is about  $1.6 \times 10^{-15}$  m. It is important to bear in mind that we are speaking here of macroscopic movement of a large and heavy object, and not movement in subnuclear quantum physics, for example. So, this ability of LIGO to function as a “proton yardstick” is truly an astounding feat. LIGO has in fact been described as the most precision scientific measurement instrument ever built.

The instrument as described cannot however directly measure a strain this small. To remedy this situation, the laser beam is made to bounce back and forth between two mirrors (A and B; and C and D) some 300 times before arriving at the photodetector. This *effectively* enlarges the 4 km arm to 1200 km. The bouncing laser beam accumulates the displacements  $\Delta l$  three hundred times, bringing this amplified displacement within the range of measurability.

This is the basic description of LIGO's operating principle. In actual practice the instrument is far more complex. These complexities of the instrument give rise to much higher precision and reliability with which the measurements can be made. But those complexities do not enter our discussion. All we need to carry in mind is the basic technique by which LIGO measures the movement of the mirrors.

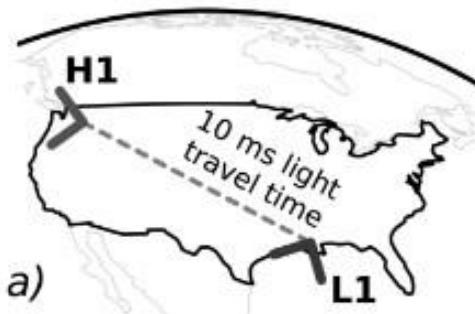


Figure 3: Location and orientation of the Hanford (H1) and Livingston (L1) detectors. Notice that determining the relative three-dimensional orientation of the two detectors must include the curvature of the Earth.

The discovery of gravitational waves involved two LIGO stations that were instrument-wise identical. One is located in Hanford in the state of Washington, and the other in Livingston in Louisiana (Figure 3). The idea of having two stations 3000 km apart is to test whether a signal observed is recorded simultaneously at both stations. A gravitational wave will produce the same signal (same waveform) at the two stations. Other conceivable types of disturbances generally will not. The light travel time for the  $\sim$  3000-km path – the straight-line distance between the two stations - is 10 ms. So, if a gravitational wave arrives in a direction parallel to the line joining the two stations, it will arrive at the second station 10 ms after it arrives at the first station. If the wave is traveling perpendicularly to the line joining the two stations, the delay time will be zero. If the wave arrives at other angles, the delay time will be between 0 ms and 10 ms. The actual delay time then can be used to estimate the angle of arrival, identifying a circle in the sky on which the source of the wave is located. With additional observational data, the location can be narrowed down. If there were a third station, the location can be pin-pointed on the sky.

A third LIGO observatory is located near Pisa in Italy and is called LIGO VIRGO. After a revamp, it came online (started observing) in the second half of 2017. It contributed to the later LIGO discoveries.

## LIGO SCAMORAMA

It is not that LIGO discoveries face skepticism the way all scientific discoveries initially do; it is not that there are differences of opinion on the scientific methods and assumptions; it is not that the data analysis techniques are debatable. All these presumable issues mask a simple truth about LIGO at its very core: The basic concept of the LIGO instrument is a sham. LIGO is nothing more than lights and mirrors in a steel chamber.

There should be nothing more to discuss or debate. But since an enormous quantity of scientific and technical garbage has been put out there, pointless debates become a practical necessity. But even as we engage in such debates, we must never lose sight of the fact that LIGO has as much to do with gravitational wave on the sky as a dowsing rod has to do with water underground.

The scamorama graphics are encapsulated expositions of the truth about LIGO.



## HOW DID LIGO EVEN PASS THE SMELL TEST?

The LIGO instrument produces output signals (wiggles) due to a wide variety of terrestrial reasons, and these signal-producing instrumental mechanisms have absolutely no relationship to how LIGO allegedly works when an alleged cosmic gravitational wave passes by. As the Ligonauts have clearly stated:

**"Many non-gravitational signals can move the mirrors or affect the laser light in a way that can mimic or mask a gravitational wave signal."**

So the LIGO instrument has basically two classes of operation (as to the detailed mechanism of producing a signal):

**CLASS A OPERATIONS:** Non-gravitational wave modes of operation.

**CLASS B OPERATION:** Gravitational wave mode of operation.

### LIGO CLASS B OPERATION

- (1). Both mirrors "move";
- (2). They move axially only;
- (3). They move to the extent of  $1/10,000^{\text{th}}$  of the proton diameter;
- (4). The motions of the two mirrors are entangled;
- (5). Laser functioning is not affected (it is as ideal as prescribed).

The above five *conjectured effects* occur within the sealed LIGO tube and are not monitored by the experiment to see if they *actually take place*. However, when a telltale "discovery wiggle" is observed at the output, it is said to experimentally prove: (i) a gravitational wave has passed by; and (ii) it has done all of the above five things while passing by. With this kind of boiler-room scamming talent you could bottle possum's pee as Chanel No. 22.

Note that the near-simultaneous observation of the wiggle at the two LIGO stations *does not* indicate a gravitational wave exclusively. Rainer Weiss shot down the Joseph Weber discovery with this argument. LIGO has logged many near-simultaneous wiggles that were not identified as gravitational wave.

**There is no Class B Operation. It is all common garden Class A.**

A world education message from Bibhas De 07/02/2017

# LIGO SCAMORAMA I

ON THE SKY

## KIP'S CONJECTURES:

- A. BLACK HOLES MERGE
- B. GRAVITATIONAL WAVES



KIP'S WIGGLE



RAINER'S WIGGLE



INSIDE LIGO

## RAINER'S CONJECTURES:

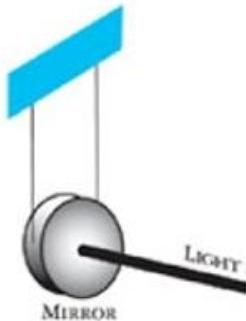
- C. MIRROR MOTIONS ENTANGLED
- D. MACROSCOPIC MOVEMENT ON QUANTUM SCALE

**Q:** Astronomical discoveries involve a known instrument and an unknown source. LIGO concerns an unknown instrument and an unknown source. Each of the above four independent conjectures must be demonstrated to be correct. LIGO has no way to demonstrate that the uncommon instrument conjectures actually happen. Comparing the above two wiggles is the only test LIGO can perform. Now, if the wiggles do match in detail, which of the four conjectures stand proved?

**A:** None. One wiggle match cannot simultaneously make a discovery on the sky and validate the unknown discovery instrument on ground. Simply put, two scientific unknowns cannot validate each other.

10/25/2017

# LIGO SCAMORAMA II



This picture shows one of LIGO's freely hung mirrors. The axis of the mirror is also the direction in which the laser beam arrives and is reflected back. This perfect alignment of the two beams with the mirror axis is an absolute requirement for LIGO detecting gravitational waves. However, noise (all effects other than gravitational wave) upsets this situation. Consider:

**(A) IDEAL MIRROR ACTUATION:** When a gravitational wave arrives, the mirror moves back and forth strictly along the axis. The laser beams remain perfectly aligned with the axis.

**(B) MIRROR JITTER:** Noise causes the mirror to move in random ways. This causes the beam to become misaligned.

**(C) LINK JITTER:** Vibration of other structures causes the beam to go off alignment.

**(D) LIGO ASSERTION:** When a gravitational wave arrives, noise is always present. LIGO assumes that this noise is added to the wave signal, but that the signal retains its identity (integrity) so that the signal and the noise can be separated by digital processing of LIGO readout.

**(E) CORRECT PHYSICS:** This is wrong. Since noise makes the laser beam veer off-axis, the gravitational wave is being recorded through this misaligned laser link – and not the way it was supposed to be recorded (see A). Noise actually creates an instrument effect to distort the wave signal, and also becomes superimposed on that distorted signal. This distortion is indeterminate. The noise and the wave signal are intrinsically inseparable in the LIGO readout.

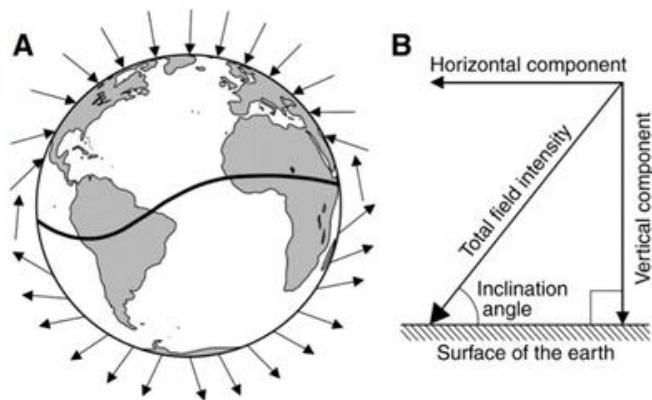
**(F) WAVE SIGNAL INSIGNIFICANT:** Any jitter due to noise is far larger than the quantum-scale mirror movement allegedly caused by the wave. LIGO actively suppresses the wave signal by the above instrument effect. The reports of large signal-to-noise ratios are false. If some wiggle does stand head and shoulder above noise, then *ipso facto* it cannot be gravitational wave.

**CONCLUSION:** LIGO cannot detect gravitational wave even if the principle of the instrument is otherwise sound. But it is not.

10/25/2017

# LIGO SCAMORAMA III

One of the most important considerations that needed to be considered decades ago while conceiving the LIGO instrument is the Earth's static magnetic field  $B$  which would wreak havoc on the instrument. Here's how:



LIGO's kilometers-long steel tubes are especially effective attractors of geomagnetic disturbances which induce time-varying electric currents  $I$  on the tube wall. As a result, a mechanical force proportional to  $I \times B$  arises on the structure, causing it to mechanically vibrate. The tube as whole vibrates and along with it, everything mechanically connected to it vibrates.

Additionally, the geomagnetic disturbances penetrate inside the tube (no adequate shielding has been provided), and generate currents  $I$  in all metallic structures inside. Correspondingly, there is the force  $\sim I \times B$  and the consequent jitter of the mirrors and the laser link.

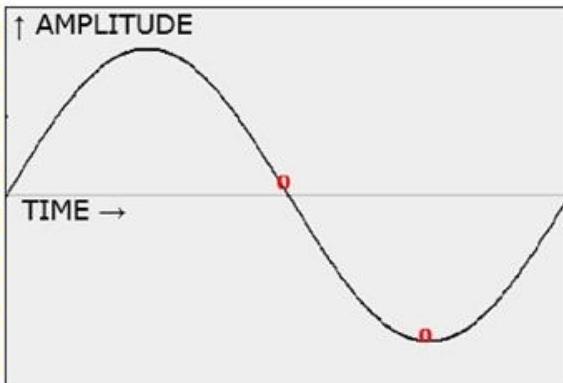
While such vibrations are generally of no concern, they are of overwhelming importance in LIGO.

There is no evidence that the Ligonauts ever considered this effect in the four decades preceding their sham discovery, or in the two years following that discovery.

A world education message from Bibhas De 10/25/2017

## LIGO SCAMORAMA IV

Let this be the time-amplitude diagram of a sine wave signal incident on LIGO. Since the amplitude as such is too small for



LIGO to measure, it is accumulated 280 times by repeated probing of the mirror position with the laser beam. So these laser bounces give us an effective laser link length of 1120 km (4 km arm  $\times$  280 bounces). The light travel time for this link is 3.73 ms. Call this time  $\Delta t$ .

Now, theoretically, the maximum time  $\tau$  to accumulate the amplitudes is a quarter cycle of the wave (as between the two red dots). For longer time spans, the graph will flip sign or direction within the time window  $\tau$ , distorting the measured signal. By setting  $\Delta t = \tau$ , we find that the maximum frequency LIGO can measure is 67 Hz. In actuality, the maximum reliable frequency measurable by LIGO,  $f_{\max}$ , is much less than 67 Hz.

Of course LIGO does not measure a single sine wave. But whatever jagged time trace (signal + noise) it measures, it remains true that  $f_{\max}$  is the maximum signal frequency *measured*. This is a fundamental limitation, and cannot be overcome by any amount of digital processing of the readout.

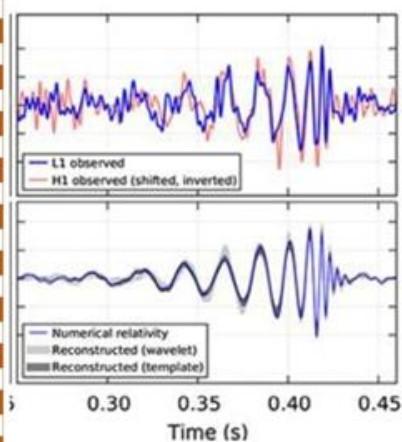
When the LIGO readout trace is converted to frequency domain, it can show frequency content up to hundreds of Hz. But nothing above  $f_{\max}$  pertains to the signal.

LIGO reports all kinds of frequency response bandwidths and on this basis, treats frequencies of hundreds of Hz (the region where LIGO chirps) as true measured signal frequencies. This is false. The LIGO chirps are not "on the sky."

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# LIGO SCAMORAMA V

Let's take a look at one of the typical LIGO discoveries. The experimental traces from two stations are shown in the top panel. The black hole merger theory is shown in the bottom panel. The question is why the experimental traces are so jagged.

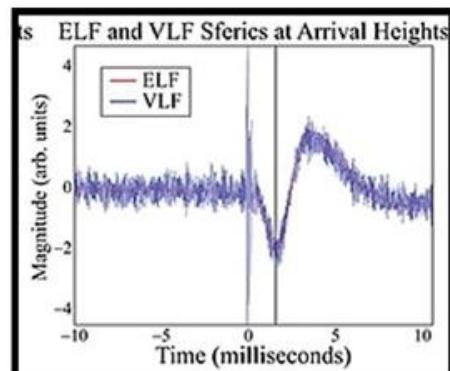
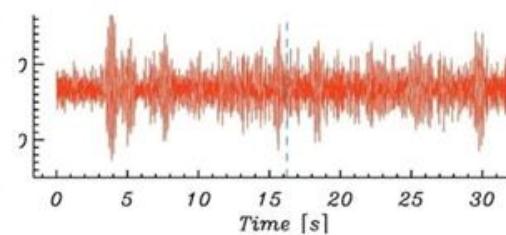


Because some noise has remained in the signal? Yes, but such noise would have to be at much higher frequencies than the frequencies in the bottom panel. However, the LIGO instrument is simply

not capable of recording those higher frequencies. Much of the dense noise hash you have seen in LIGO diagrams contain high frequencies that LIGO laser/mirror technique cannot measure. So how do these frequencies get into LIGO?

The jaggedness comes most likely from the fact that electromagnetic disturbances – such as Schumann transients shown here - are getting directly into the optoelectronic components and are appearing in the LIGO readout. The importance of Electromagnetic Interference (EMI) in optoelectronic receivers operating at very low signal levels is known.

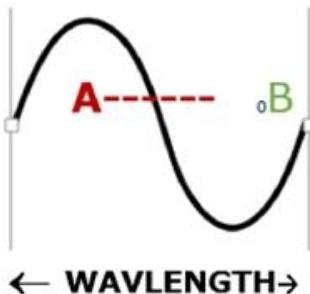
I would guess that LIGO readout is a composite of signals gathered through random mirror/laser link jitter, and direct reception of EM disturbances as described above. The intended LIGO mode, entangle mirror vibration, never happens.



# LIGO SCAMORAMA VI

## Identical quackery: LIGO and BICEP2

The stated genius of the invention of LIGO was to cleverly utilize a conjectured property of gravitational waves called polarization. If there were no polarization (or zero polarization) LIGO would not work.



A wave can resolve physical structures that are larger than about one-third the wavelength (A). Smaller structures are seen as blurs or indistinct specks in the light of this wave. The size of the LIGO arms ( $\sim$  kms) vis-a-vis the wavelength ( $\sim 10^3$  kms) is closer to a vanishingly small dot (B). Therefore **LIGO cannot sense the polarization of the gravitational wave**, even if such waves existed and had the conjectured polarization. Do not let any amount of the habitual Ligonaut jiggery pokery confuse you on this point. The billion-dollar LIGO is based at the very core and from the get go on abject physics quackery.

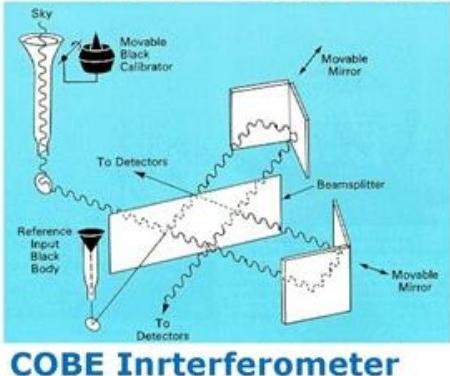
Curiously, this is exactly the same instrumentation quackery that was committed with the BICEP2 telescope, and that I uncovered immediately upon the report of that discovery.

**A common funder of the two scamoramas: France Cordova of the National Science Foundation. The common publisher: The Physical Review Letters.**

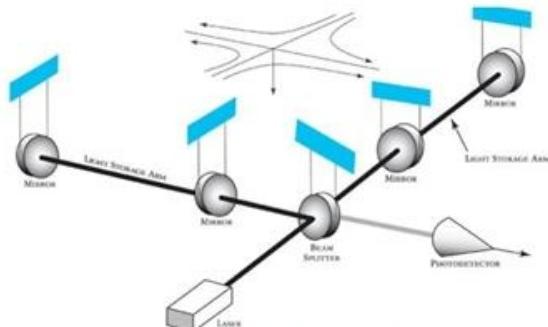
A world education message from Bibhas De 10/30/2017

# LIGO SCAMORAMA VII

## THE COMMON IDEATION OF FRAUD



COBE Interferometer



LIGO Interferometer

Rainer Weiss of MIT is centrally responsible for both **COBE Satellite** and **LIGO** instrumentation frauds. It is reasonable to conclude that the two ideas were forming in his mind roughly in parallel. He applied the same idea (interferometry) to two radically different applications.

An interferometer works with light and mirrors. In the COBE case, the mirrors were moved intentionally and the light was infrared. In the LIGO case, gravitational wave "moved" the mirrors and the light was visible laser. For COBE, the light was the thing to be measured. For LIGO, the mirror movement was the thing to be measured.

In the COBE case, whatever the instrument saw was falsely equated to the radiation from an onboard blackbody calibrator which was falsely equated to a theoretical Planck spectrum. In this way, a textbook-perfect blackbody spectrum on the sky followed.

In the LIGO case, whatever the instrument saw was falsely ascribed to a conjecture of invisibly entangled mirror motion on quantum scale, and a textbook-perfect discovery on the sky of both gravitational wave and black hole merger followed.

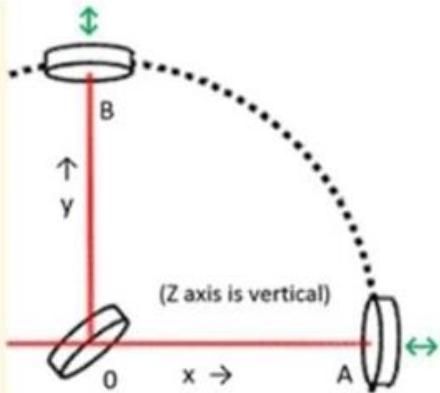
**In both cases, the Nobel Prize also followed.**

A Duty-to-inform world education message from Bibhas De 10/31/2017

# LIGO SCAMORAMA VIII

## The curious incident of the dog in the nighttime

Let's go back to the conceiving of LIGO. The problem here was that when a gravitational wave (GW) passes through LIGO (coming down z axis, say), the instrument has no fixed reference point in space in its vicinity because the space itself is in motion. Absolute distances cannot be measured.



Rainer Weiss's legendary instrument "genius" came up with the idea of making *differential* measurement. The *difference* between the lengths OA and OB would be measured. Why would they be different? Because the waves have a property called polarization. It causes the mirrors A and B to move in concert with the wave but in different directions. As A moves towards O, B moves away from O, and vice versa. Thus  $OA \sim OB$  is nonzero, and measurable.

Now here's the problem: Polarization is the conjecture LIGO is out to prove! Therefore the concerted motion is also a conjecture. Because absolute distances cannot be measured, the motion of an individual mirror cannot be measured and so the concerted motion cannot be observed. But this outre idea of invisible entanglement of mirrors certainly needs verification.

**The principle of operation of LIGO is the very conjecture it is out to discover on the sky. This principle is said to be post-validated by that discovery. If the discovery has to validate the instrument, what's validating the discovery?**

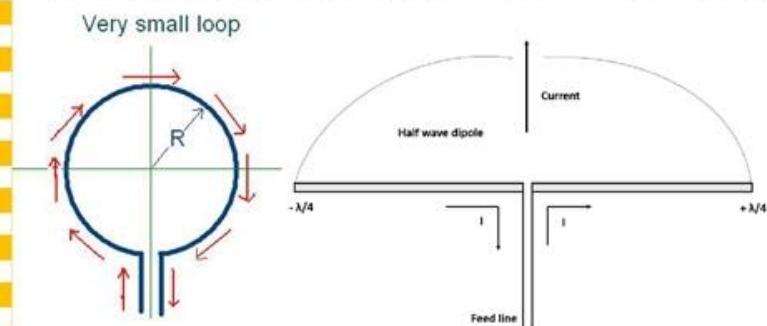
You are out in the jungle at nighttime trying to track down a unicorn, based on a conjecture that the unicorn smells like Morlocks. You bought a sniffing dog from Sgt. Bilko who said it can smell Morlocks. Now, if the dog becomes suddenly agitated in the jungle at nighttime, does this prove there is a unicorn and the dog can indeed smell Morlocks?

11/03/2017

# LIGO SCAMORAMA IX

## RAINER'S POLARIZATION

Rainer Weiss of MIT was the science leader of the COBE Satellite program where the science concerned electromagnetic (EM) waves. In my 2015 book *The Falsifiers of the Universe* I showed how the entire program was based on gross misunderstanding of EM wave properties at many levels. One particular point had to do with total misconception about polarization. Where an unpolarized (randomly polarized) wave was flowing through a pipe of circular cross-section, they willy-nilly changed it into a rectangular cross-section prior to launch, without ever telling the scientific community. This introduced instrumental polarization where there was none on the sky. In retrospect, Weiss never understood anything about wave behavior in general – not just EM waves. His quackery carried over to LIGO.



In EM, a loop antenna, for example, whose size  $R$  is much smaller than the wavelength  $\lambda$  is called a probe. It can be used to sense the

presence of a wave over a broad range of frequencies. It cannot give you the strength of the wave or its direction of travel or state of polarization.

A half-wave dipole on the other hand, for example, can give you the strength, the plane of polarization for linear polarization, and the approximate direction.

LIGO as a gravitational wave antenna is akin to a probe. It cannot work off the polarization of the wave or give you the strength. Every single one of the five LIGO discoveries is an elaborate fraud, just like the COBE and the BICEP2 discoveries.

The WMAP Satellite and the Planck Satellite covered up the COBE fraud. The Physical Review Letters and the European Space Agency helped cover up the BICEP2 fraud. Now the entire physics establishment is knowingly covering up the LIGO fraud.

A world education message from Bibha De 11/04/2017

# LIGO SCAMORAMA X

## LIGO EXCEPTIONALISM

- The only way LIGO instrument functions is to work off the polarization of gravitational wave (GW). But this polarization is the hypothesis LIGO is out to prove.
- LIGO's physical dimension is too small compared to the wavelength of GW for it to sense the polarization (if it were there.) Therefore LIGO is not a functional instrument.
- The hypothesis of meaningful macroscopic mirror motion at quantum-scale distances is one of the two mainstays of the LIGO operating principle. The Ligonauts cannot experimentally verify this hypothesis.
- The hypothesis of concerted mirror motion (invisible entanglement) is the other mainstay. The Ligonauts cannot experimentally verify this hypothesis.
- LIGO has a strict upper limit of frequency  $f_{\max}$  that it can meaningfully measure. The chirps reported shoot far above  $f_{\max}$  and are therefore spurious (i.e. not on the sky.)
- LIGO's readout is in volts. To convert it to a length (expansion/contraction of LIGO arms) there needs to be a length-vs-volt calibration relation *in LIGO's discovery regime*. The Ligonauts cannot experimentally determine this.
- The mechanisms (mirror jitter, laser link jitter) by which LIGO registers the myriad unwanted signals alter the prescribed instrument configuration for reception of GW. Therefore, if GW were being received, it would become inextricable from these signals, with no separation criteria.
- Given a readout signal, the Ligonauts cannot determine the corresponding signal that was incident on LIGO.

However, the myth spread round the world is that the Ligonauts possess some higher knowledge that "you do not understand" and is "too complicated for you". This is the LIGO Exceptionalism. This is why LIGO is immune to our physics. I agree that the LIGO leaders and their groupies are the new age high priests: *The fake babas of Physicsville*.

11/05/2017

# LIGO SCAMORAMA XI

## A NOBEL-CERTIFIED SCAM: TRIANGULATION



I have not addressed the subject of triangulation. When an instrument is a piece of crap, why discuss the collective functioning of multiple such instruments? But this discussion would illustrate the quality of LIGO science. And triangulation was the main argument for inducting Italy, Japan and India into the LIGO network.

Triangulation – simultaneous detection at three stations – gives the direction of the source of the alleged gravitational wave. Basically, there is a 2-D plane ("wavefront") sweeping past the Earth. And they want to determine the orientation of this plane. If you can locate two points on this plane, you have some information about the orientation. Three points give you the exact orientation, ideally.

The length-scale of relevance here is the unknown wavelength  $\lambda$  of the gravitational wave which can be comparable to the size of the Earth. Because of the physics of waves, triangulation requires that the distance  $L$  between any two stations be much longer than the wavelength ( $L \gg \lambda$ ). The plane or the wavefront has no physical meaning if  $L \leq \lambda$ . This is *our* physics, as distinct from Ligonaut physics. So triangulation is now a Swedish-certified scam, with multiple nations as its victims.

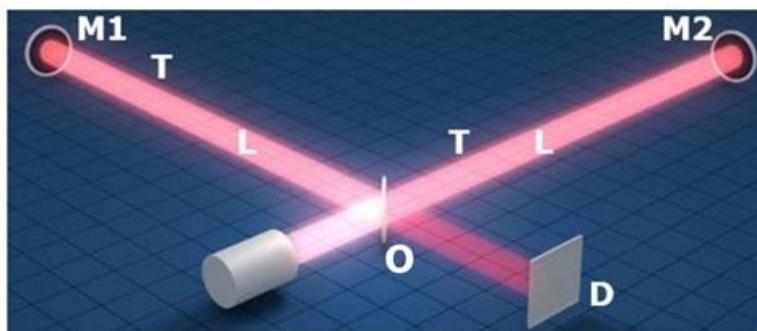
**Duty to Inform**

A world education message from Bibhas De 11/10/2017

## LIGO SCAMORAMA XII

### WOLFGANG ENGELHARDT'S DEATH BLOW TO LIGO

Both in 2016 and 2017, Professor Wolfgang Engelhardt, a German physicist retired from Max-Planck Institute, wrote directly to the Chairman of the Nobel Committee for Physics (copy to other Nobel officials), pointing out an absolutely fatal defect in LIGO that made it crystal clear that the discoveries never happened. No way, no how, not on your life!



The LIGO readout at the optoelectronic detector D is a voltage  $v$ . It is a string of numbers. What they want to measure is a ratio of lengths called strain  $s$ :  $[(OM_1 - OM_2)/4 KM]$ . Now, the issue of calibration: How do you go from  $v$  to  $s$ ?

**INSTRUMENT CALIBRATION:** The conventional method is to develop an experimental calibration curve: a relation between  $v$  and  $s$  for **the exact same experiment** where both are known. LIGO was never able to determine this calibration curve in the needed range of  $s$  ( $\sim 10^{-21}$ ) or in any other range.

**THEORETICAL RELATION:** As an absolute last resort, one could use the theory of the instrument to develop that  $v$ - $s$  relation. But to do so one would need a model for the movement of the mirrors M1 and M2. But that model is what LIGO is out to discover. **You cannot tell the instrument to lie!** Not only was there not any LIGO discovery, but it is a billion-dollar piece of *merda taurorum*. Do not have the slightest doubt on that point, good citizens of the world.

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A world education message from Bibhas De 11/12/2017

## **LIGO SCAMORAMA XIII**

### **FROM THE DEPTHS OF UNCERTAINTY FLOW DEFINITIVE DISCOVERIES**

In order to detect gravitational wave, LIGO has “to measure a motion 10,000 times *smaller* than an atomic nucleus (the smallest measurement ever attempted by science)...” So say Kip Thorne’s groupies.



When a LIGO mirror moves in gravitational wave, let the uncertainty in its position be  $\Delta x$ . Assuming that the Uncertainty Principle is applicable to this “motion” (If not, what is?), we have

$$\Delta x \Delta p \geq \hbar/2$$

We can write here the momentum uncertainty  $\Delta p$  as  $m\Delta x/\tau$ , where  $\tau$  is the time period of the wave and  $m$  is the mass of the mirror. With  $m = 40$  kg,  $\tau \sim 10^{-2}$  sec, we get

$$\Delta x \geq 10^{-19} \text{ m}$$

The diameter of the atomic nucleus is  $\sim 10^{-15}$  m. Thus the motion  $x$  LIGO has to measure is  $10^{-19}$  m, in the same range as the uncertainty  $\Delta x$  in the mirror position. And from the bourn of this uncertainty would flow picture-perfect agreement between theory and measurement, phenomenal details about what happened billions of years ago and billions of light years away, and phenomenally snap decision in Sweden to award the Nobel Prize.

So it seems that Kip Baba’s *Hare Krishnas* were measuring things that were fundamentally not measurable in physics, with a machine that was fundamentally a piece of crap.

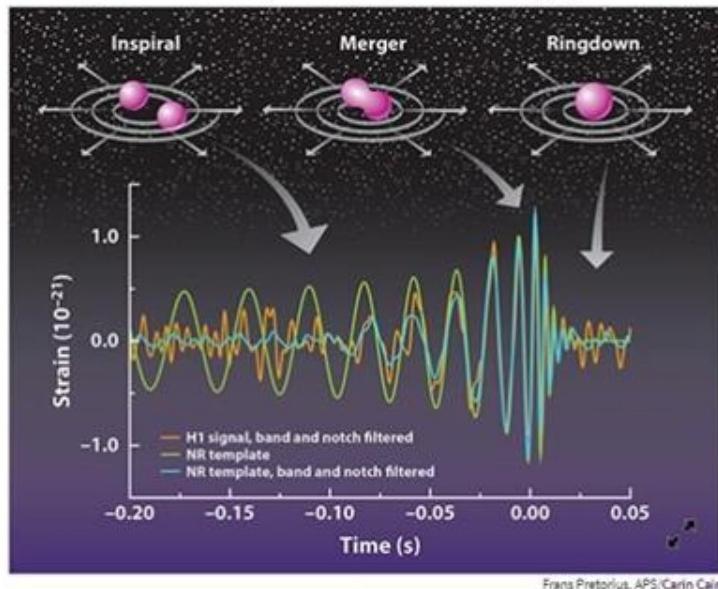
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A world education message from Bibhas De 11/16/2017

# LIGO SCAMORAMA XIV

## Kip S. "Scheherazade" Thorne

The most impressive selling point of the LIGO discovery was how



the theory wiggle and the observed wiggle matched – peak for peak, trough for trough, amplitude for amplitude, stage for stage. In truth, it was all a Scheherazade-like tale that Thorne wove. This match was absolutely a fiction, a very elaborate one. Scheherazade needed to save her young life, and Kip needed to save his old butt.

Take a length of wire and bend it in the exact shape of Kip's theory wiggle. Dip it in honey. Hang it out in your porch. After a couple of days you will find that it is completely covered with insects. So you have an experimental "insect wiggle". It perfectly matches the theory wiggle! Eureka! The LIGO match was a similar deception. The data was largely all noise, and from this shapeless noise was shaped the experimental wiggle, *guided by* the theory wiggle. This way you could fit any wiggle – even the profile of Pinocchio's face.

But there is a deeper truth. There should have been no scientific expectation in the first place for the theory wiggle to match the observed wiggle. Whatever impetus (wiggle) is incident on LIGO, and whatever wiggle LIGO reports at its readout, cannot resemble each other. I have explained all this in my book. There is no scientific basis for graphically comparing the theory wiggle with the observed wiggle. The very fact that such an astounding match was found between the two wiggles was the very indication of the gigantic fraud. The Nobel Prize notwithstanding. And all the yakking Princeton IAS-ians notwithstanding.

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A world education message from Bibhas De 02/07/2018

# LIGO SCAMORAMA XV

## True experts: *LIGO data analysis was all crap!*

"In view of unsubstantiated claims of errors in our calculations (by LIGO camp), we appreciated the opportunity to go through our respective codes together (with LIGO) - line by line when necessary - until agreement was reached. This check did *not* lead to revisions in the results of calculations reported (by us). It did result in changes to the codes used by our visitors (LIGO). ...

We believe that LIGO has not yet attained acceptable standards of data cleaning. Since we regard proof of suitable cleaning as a mandatory prerequisite for any meaningful comparison with specific astrophysical models of GW events, we continue to regard LIGO's claims of GW discovery as interesting but premature." - James Creswell, Sebastian von Hausegger, Andrew D. Jackson, Hao Liu, Pavel Naselsky, University of Copenhagen, August 21, 2017

"It is shown that this matched filter misfires with high SNR (signal-to-noise ratio)/CCF (cross-correlation function) peaks, even for very low-amplitude, short bursts of sine wave signals and additive white gaussian noise, all the time. It is shown that this erratic behaviour of the matched filter, is due to the error in signal processing operations, such as lack of cyclic prefix necessary to account for circular convolution. It is also shown that normalized CCF method implemented in time domain using short windows, does not have false CCF peaks for sine wave and noise bursts. It is shown that the normalized CCF for GW151226 and GW170104, when correlating H1/L1 and template, is indistinguishable from correlating detector noise and the template. It is also shown that the normalized CCF for GW151226 and GW170104, when correlating H1/L1 and template, is indistinguishable from correlating H1/L1 and bogus chirp templates which are frequency modulated (FM) waveforms which differ significantly from ideal templates. Similar results are shown with LIGO matched filter, which misfires with high SNR for bogus chirp templates." - Akhila Raman, University of California at Berkeley, 21 November 2017

02/14/2018

# LIGO SCAMORAMA XVI

## THE OCCULT OF THE THORNEWIESS CULT

Let me summarize in one graphic why the LIGO concept for detecting gravitational wave (GW) is a high level quackery from the get go. For this purpose we consider a textbook-idealized LIGO without any noise of any kind. Some unknown impetus produces a signal  $\Delta$ . We need to identify this impetus as GW. Let

$X(t)$  = "displacement" of LIGO's X-mirror (with sign)

$Y(t)$  = "displacement" of LIGO's Y-mirror (with sign)

$\Delta = X(t) - Y(t)$  = LIGO signal

So a nonzero  $\Delta$  can arise if one mirror is stationary and the other moves. Or both mirrors move as different functions of time. To identify the impetus as GW, we *must* demonstrate that  $X$  and  $Y$  are the same function of time, but  $180^\circ$  out of phase. To demonstrate this, we must *independently and simultaneously* measure the values  $X$  and  $Y$ , referred to one fixed location. This is precisely what LIGO cannot do as a GW passes by. LIGO is designed to never be able to identify GW. This is the end of the story. But let's go on exploring this thousand-genius quackery.

$L_\lambda = L/\lambda$  ( $L$  = length of a LIGO arm;  $\lambda$  = wavelength of GW)

$D_\lambda = D/\lambda$  ( $D$  = Straightline distance between two LIGO stations)

From the basic physics of waves, these conclusions follow:

(1). If  $L_\lambda \leq 1/3$ , LIGO cannot sense the polarization of GW (i.e., it is insensitive to the phase difference between  $X$  and  $Y$ ).

(2). If  $D_\lambda \leq 1/3$ , LIGO cannot triangulate.

The factor  $1/3$  is rooted in the fundamental limitation that a wave cannot resolve structures smaller than about a third of the wavelength.

For LIGO application, both conditions  $L_\lambda \leq 1/3$  and  $D_\lambda \leq 1/3$  hold.

To say that a match of the theory wiggle and the observed wiggle constitutes the proof that the impetus is GW is to substitute science fiction for science. It is to require a presumptive story to complement an instrument of scientific discovery.

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A world education message from Bibhas De 02/16/2018

# LIGO SCAMORAMA XVII

## NSA-LIKE ANALYSIS OF LIGO "CHATTER"

Demetris Christopoulos of the National & Kapodistrian University of Athens is a physicist specializing in mathematical and statistical methods. He has analyzed the LIGO "chatter" around the period of the alleged discoveries – chatter (my description) here being the copious amounts of words and phrases in the entries in the LIGO logbooks. Here is a sample diagram from his study, this one on key phrases containing "injection", referring to artificial software injection of fake signals.

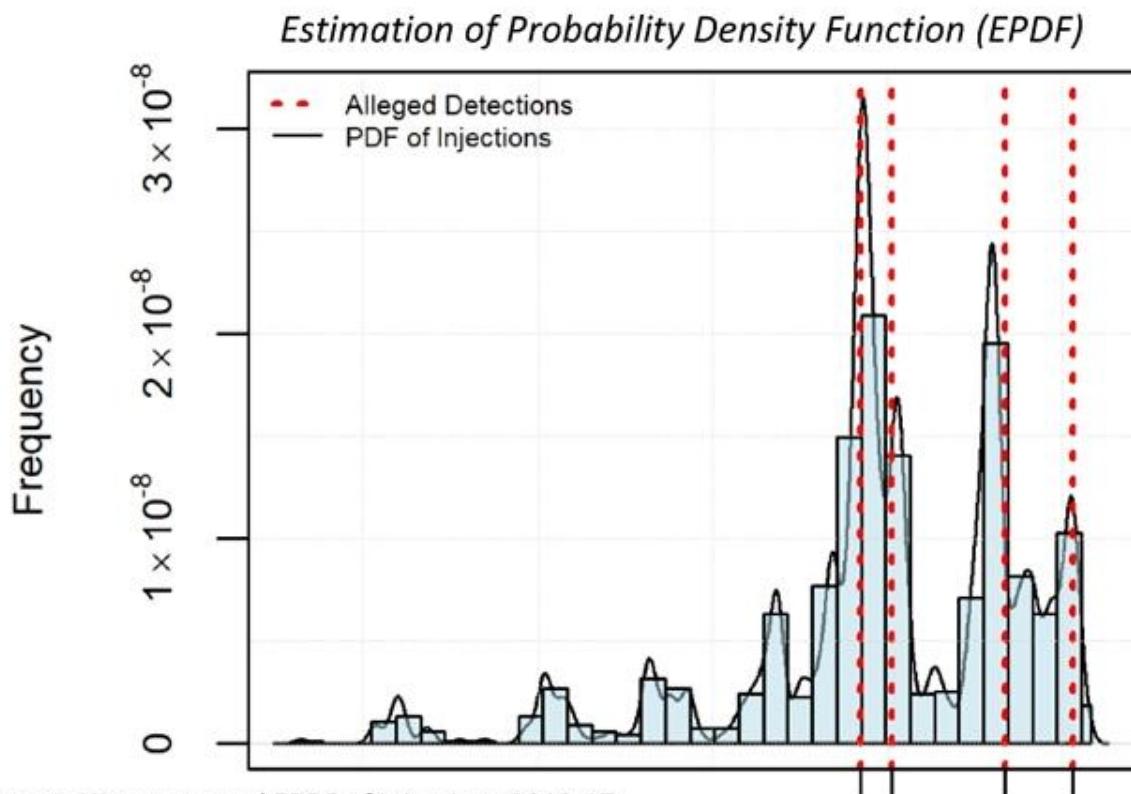


Figure 1: Histogram and EPDF of Injections 2010-17

Fig. 1 If we use the 446 unique times between 2015-09-14 09:50:45 UTC (*GW150914*) and 2017-08-17 12:41:05 UTC (*GW170817*) we'll find that inflection point is again on the alleged detection 2017-01-04 10:11:58 UTC (*GW170104*), see TOC plot in Fig. 2

GW150914  
GW151226  
GW170104  
GW170817

The clear point of this diagram is that *all four* alleged discoveries are on or near peaks of the probability of fake injection.

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A world education message from Bibhas De 02/17/2018

# LIGO SCAMORAMA XVIII

## When the Nobel Committee deliberated ....

there was available to them at least five complete scientific dossiers prepared by credentialed experts and in the public domain – each flashing a red sign. In the face of these, the award was made in extreme haste on the very first year it was procedurally possible to make the award.



ОСТОРОЖНО!

Schumann File



HALT

Engelhardt File



STOPP

Copenhagen File



Christopoulos File



Privilege File

**Schumann File:** Three expert reports (from Russia, Japan and an international group) stressing that LIGO discoveries are likely Schumann resonances.

**Engelhardt File:** Wolfgang Engelhardt wrote to the Nobel Committee on LIGO's lack of calibration, making the discoveries false.

**Copenhagen File:** A group of experts from the Niels Bohr Institute showed that LIGO data analysis was faulty. Later a UC Berkeley expert made this conclusion stronger.

**Christopoulos File:** Demetris Christopoulos showed that the four LIGO discoveries happened at or near the times when artificial signal injection-related logbook entries peaked.

**Privilege File:** Two editions of my book *Unchallenged Privilege* showing that the LIGO instrument concept was faulty from the get go.

### Duty to Inform

A world education message from Bibhas De 02/18/2018

# LIGO SCAMORAMA XIX

## Gravitational Wave and Radio Astronomy

There are similarities and differences between gravitational (GW) and electromagnetic (EM) waves. Nevertheless, the following comments apply to both wave behaviors and their detections.

**Q:** If a radio astronomer Fred wanted to detect a theorized radiation component around some wavelength  $\lambda$  in the sky, would he build an antenna whose size L is much smaller than  $\lambda$  ( $L \ll \lambda$ )?

**A:** Absolutely not! But GW astronomers Kip and Rai did.

**Q:** If Fred wanted to detect the theorized polarization state of the EM wave, would he build an antenna with  $L \ll \lambda$ ?

**A:** Absolutely not! But Kip and Rai did.

**Q:** If Fred is expecting a pulse train and needs to discern the precise arrival time, would he build an antenna with  $L \ll \lambda$ ?

**A:** Absolutely not! But Kip and Rai did.

**Q:** If Fred wanted to triangulate the direction of the source in the sky, would he build three antennas where D, the distance between any two antennas, is such that  $D < \lambda$ ?

**A:** Absolutely not! But Kip and Rai did.

**Q:** If Fred anticipates that his signal would be buried deep in white noise and masked by other unwanted pulse trains, would he build the hardware anyway?

**A:** He most likely would not, and most likely would not be funded. But Kip and Rai were funded to do this.

**Q:** Would Fred be funded to build an unworkable system with  $L \ll \lambda$  and  $D < \lambda$  because practical considerations of space, resources, state of technology etc. impose this limitation?

**A:** Absolutely not! But Kip and Rai were.

**Q:** What's exceptional about Kip and Rai?

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A world education message from Bibhas De 02/19/2018

# **LIGO SCAMORAMA XX**

## **SCAMORAMA SERIES FINALE**

**Q:** Are you saying that LIGO needs to gather more evidence?

**A:** No. LIGO discoveries never happened and will never happen. LIGO is scientifically incapable of detecting gravitational wave.

**Q:** So the LIGO observatories are not salvageable?

**A:** Maybe they can be converted for petroleum pipeline research.

**Q:** But the reality today is that more money is going into upgrading the observatories and creating a new one in India! The scientific establishment, NSF and the media stand solidly with LIGO. Kip Thorne is hot on his victory lap. PBS, NOVA, science museums – they are all agog with the awe of LIGO. With the Nobel Prize, all the dissidents save yourself have been trounced.

**A:** This is true. As a last effort, I have asked the Trump White House to help stop this otherwise unstoppable crime by intellectual cabals against our nation and our civilization. God knows the ragtag dissidents have urged *all* the relevant groups to do right by the human society. None did. I received this response from the White House, and I am hopeful that President Trump may be the one to rescue for us our hijacked civilization:

To bibhasde bibhasde@aol.com

THE WHITE HOUSE

WASHINGTON

January 5, 2018

Thank you for contacting the White House. We are carefully reviewing your message.

President Donald J. Trump believes the strength of our country lies in the spirit of

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A world education message from Bibhas De 02/20/2018

# HOW LIGO THIRD DETECTION EXPOSES THIS ENTIRE SHAM DISCOVERY "INDUSTRY"

("The hunter who always comes home with meat is a thief." – Bantu proverb)

A LIGO discovery process begins with identifying discovery candidate events observed, based on the following criteria:

**COINCIDENCE** (Simultaneous observation at two stations)

**DELAY** (A time lag of at least 10 ms between the two stations)

They then look for the signatures of Binary Black Holes merger source mechanism of gravitational waves:

**CHIRP** (Increase in frequency with time)

**RINGDOWN** (A ringing following chirp)

To date there have been three LIGO discoveries. In the case of the third discovery, they had 7 candidates. One (Candidate C, say) became the discovery; the rest were simply discarded.

	<u>COINCIDENCE</u>	<u>DELAY</u>	<u>CHIRP</u>	<u>RINGDOWN</u>
Discovery 1	✓	✓	✓	✓
Discovery 2	✓	✓	✗	✗
Candidate A	✓	✓	?	?
Candidate B	✓	✓	?	?
Discovery 3	✓	✓	✓	✓
Candidate D	✓	✓	?	?
Candidate E	✓	✓	?	?
Candidate F	✓	✓	?	?
Candidate G	✓	✓	?	?

The correct scientific methodology would demand a full reckoning of *all* the discarded candidates ([What are their source mechanisms?](#)). Otherwise, LIGO is placed in evidence as a wacko trawler that habitually hauls in a great deal of "mystery catch". No firm conclusions can be made on one chosen catch.

Discoveries 1-3 are contingent on, and most likely undoable by, the answers to the above question. So there are no discoveries.

## LIGO FRAUD EXPLAINED IN PLAIN TEXT

So Kip Thorne makes two independent theoretical assumptions on the sky: (T1) Models of merging black holes; (T2) Emission of gravitational waves (GW) therefrom. Rainer Weiss makes two independent (of each other, and of T1 and T2) experimental assumptions on the ground: (W1) Two mirrors  $\sim 6$  km apart move in invisible entanglement when GW passes by; (W2) Movements of the mirrors smaller than Heisenberg uncertainty can be measured as precision macroscopic lengths. All in all, we have four independent assumptions to validate before we can talk of a discovery.

Kip whips out his sky wiggles and emails them to Rai. Rai fires up his machine and presto, those sky wiggles appear at the readout of his computer. Gravitational wave *is discovered*, because this wiggle match is said to implicitly validate all four independent assumptions T1, T2, W1 and W2. But how? Mr. GW must have somehow whispered into the ears of Kippy Boy and Raister his travel tales of how, as he was making his trek from his birthplace to the LIGO readout, has experienced all the four effects along the way. Every unknown and unknowable (and highly questionable) effect invoked to make the discovery possible now stands attested to by the discovery itself! A kind of Jedi bootstrap? Or a Zen one-handed clap?

If any one of the four assumptions fails (so far none is validated), LIGO readout can contain nothing about any GW. But all this is academic anyway. Because the size of LIGO is infinitely small compared to the wavelength of the alleged GW, even an idealized LIGO (without any noise) is scientifically incapable of sensing GW, much less of reproducing the sky wiggle at its readout. That's just unavoidable basic physics. By this, LIGO readout can contain nothing about any GW. So, in slyly engineering the uncannily perfect wiggle match, the over-clever boys actually shot themselves in the foot. This match itself is the most telling evidence of fraud. This match is also what led to the Nobel Prize in Physics in 2017. Lord have mercy!

**Duty to Inform**

Bibhas De 10/10/2018

# LIGO FRAUD IN PHYSICS GUT

I am no kind of genius, and yet when I first read the LIGO description, I went "OMG!" That is precisely the dilemma: So splendidiferous an aura of genius has been hung around LIGO that we *hoi polloi* cannot see straight. But the truth is that we are not dealing here with supercalifragilisticexpialidocious geniuses. We are dealing with wily fraudsters. That realization is the beginning of wisdom.

Once you are thus freed, you can readily sense the LIGO fraud in your physics gut.

LIGO's close electro-magnetic analogy is this: A crossed dipole antenna with arm length  $L$  much smaller than the wavelength  $\lambda$  ( $L \ll \lambda$ ) is observing a radiation field in the sky that is unpolarized except that there is a small directionality to the polarization. In the plane perpendicular to the look direction, the electric field is slightly larger in one direction than the orthogonal direction. So, we may expect that if we difference the powers received by the two dipoles, we will have a small nonzero "signal". However, in reality the difference signal will be nearly zero, with no information about polarization. This is because under the condition  $L \ll \lambda$ , an antenna cannot discern anything about the wave (its direction or its polarization). *A probe must occupy a substantial portion of a wavelength to sense any property of the wave.* This is fundamental wave behavior. So here is not a conventional, if tough, discovery issue of measuring a small but meaningful signal (as they had us believe), but an elaborate scam to detect a totally irrelevant near-zero power level. One billion \$ and counting. NSF has made us feed and clothe a thousand fraudsters for four decades.



# THE CENTRAL STUPIDITY

## of the thousand-man LIGO clan

Here's how Thorne-Weiss LIGO science works: A modeled wiggle (gravitational wave "strain" pulse train) from a modeled black hole merger is incident on LIGO. This is the *input wiggle*. The wave squeezes one LIGO arm while stretching the orthogonal arm. The interferometer measures the tiny differential length change of the arms. This change (strain) is the *output wiggle*. So, if these input and the output wiggles match, the theory and the model on the sky and the unbelievable assumptions about the instrument are all validated in one fell swoop. If you happen upon a stage and see a portly lady singing there, it must mean an entire opera has taken place, right?

This is mind-numbing stupidity (later turned fraud), and is an attempt to avoid the correct scientific procedure of determining the *Instrument Transfer Function* (which, understandably, is indeterminate. LIGO is not a valid instrument.) Because the LIGO arms are infinitely small compared to a wavelength, they do not function independently. *So they cannot sense the said orthogonal differential effect even if the gravitational wave exists and has this property.* LIGO science excludes this wave physics. So the change (the output) is zero. All this I explained in my book, and also presented in the following diagram in this blog to alert potential prize givers. As you know, the prizes were given out.

The morale: *Never try to teach a pig to sing. It wastes your time, and it annoys the pig.*

Bibhas De 10/18/2018

# LIGO: AN AMICUS CURIAE BRIEF

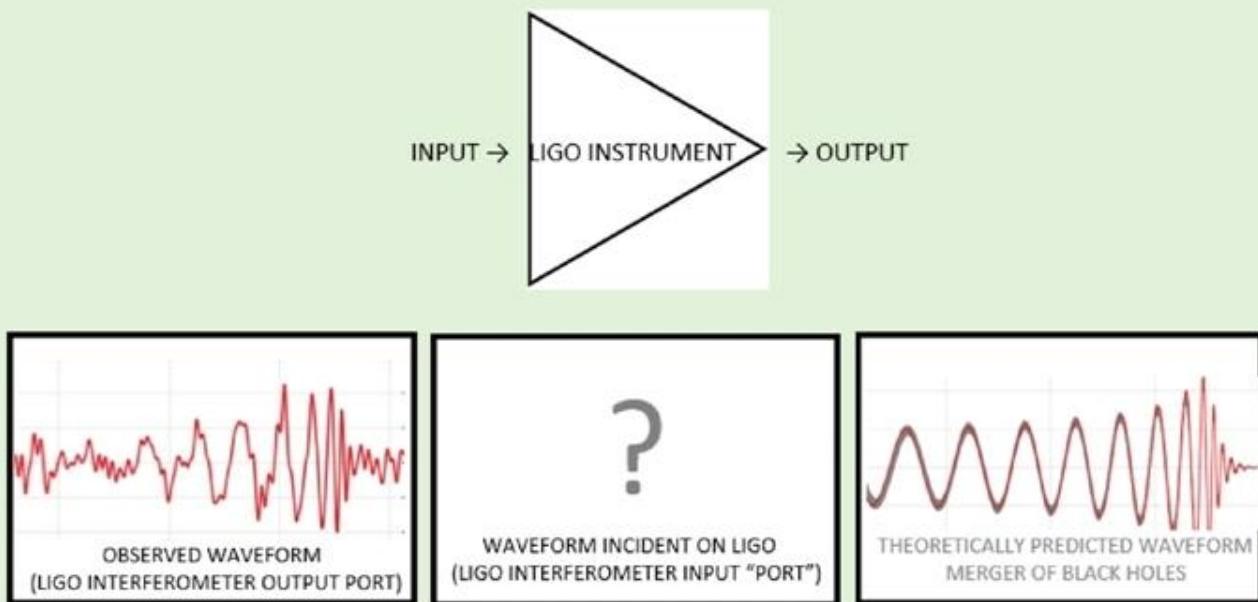
To: Kavli Astrophysics Prize Committee 2016

Physics Nobel Prize Committee 2017

Sub: Laser Interferometer Gravitational-wave Observatory's discovery

The LIGO instrument suffers from numerous scientific and engineering faults - many of them fatal. But here is a simplified sketch of one of the central stratagems behind the discovery of gravitational wave and black hole merger.

Most scientific instruments – as with LIGO – can be seen to have an input port and an output port. There is an input signal and an output signal. Generally, one of these is measured, and the other is inferred therefrom. The inferred signal then may be used to construct a theory or to test a preexisting theory.



The LIGO output port signal is the observed waveform. LIGO input port signal is to be backed out from the observed signal using the *instrument transfer function*. For LIGO this function and therefore the input waveform are indeterminate. So the scientists simply slipped in its place their theoretically predicted waveform which they tailored to match the observed waveform. The discovery followed. There was no cause-and-effect link between observation and theory.

There is no evidence that LIGO ever underwent a proper evaluation by professional engineers unconnected to the academia. *The Physical Review Letters* would not have conducted such a review before publishing the LIGO paper and thereby positing it as a discovery. This publication has no probative value whatsoever.

05/18/2016

# Thorneweiss LIGO Science

One point many LIGO sceptics have had trouble with in their gut is how LIGO can measure mirror "displacements" of 1/10,000-th the proton diameter, a measurement that was at the root of the discoveries. In Beijing in August 2018, Kip Thorne offered the following defense [bad machine translation from a Chinese report; (...) are mine]:

If, for example, the mirrors are separated by so many kilometers, starting with (a displacement measurement of) 1 cm, dividing 1 cm by 100 is the diameter of the hair, and dividing by 100 is the wavelength of light. After removing 100,000, you can get the diameter of the atom. After removing 100,000, you can get the diameter of the atomic nucleus. After dividing 1000, you know the distance of the mirror hole (mirror displacement). I really like this analogy. Before I researched his thesis, I would think that this person (Rainer Weiss) is too stupid and crazy. We can't test such a small distance. I also discussed it with him and found that it was really possible to see such a small change.

**THORNEWEISS SCIENCE: By arbitrarily lengthening the interferometer arms, you can measure arbitrarily small displacements without ever encountering any physics limitations.**

First, this leads to LIGO claiming high precision measurements of displacement and velocity where the displacement  $x$  is comparable to the quantum mechanical uncertainty  $\Delta x$  in the position. Second, the longer the arm, the less the definition of the signal trace recorded. So, there are *fundamental limitations* on how long the arms can be. *Thorneweiss Science* exceeds those limits.

A world education message from Bibhas De 08/22/2018



## **LIGO CONCLUSIONS**

Succinct conclusions about LIGO science from my book *Unchallenged Privilege* (Second Edition) are presented here.



# UNCHALLENGED PRIVILEGE:

The Billion-Dollar Trilateral Gravitational-Wave Discovery Scam

*Second Edition*

## PREFACE TO THE SECOND EDITION

Within days of the announcement of the LIGO discovery, I reported on my blog site *The Dreamheron Chronicles* that the signals were most likely due to some type of sudden geomagnetic disturbance and that the source was most likely lightning strikes (Appendix A). In July of 2017, two independent research reports from Japan and Russia concluded that the LIGO signals were consistent with a type of global geomagnetic disturbance known as Schumann resonant transients, excited possibly by lightning strikes somewhere in Africa. It emerges that the LIGO leaders were long aware of this fatal issue with their discovery (Appendix C), but continued to uphold it and to garner major prizes.

At that time, I had also pointed out that the uncanny resemblance between the LIGO predicted signal and the observed signal was misleading. In July 2017, a group of Danish researchers found issues with the way the LIGO data analysts extracted their discovery signal from raw data. This I interpret as saying that the above resemblance is not scientifically meaningful.

This second edition of the book is a timely update, including such critical developments.

28 August 2017

## PREFACE TO THE FIRST EDITION

This book is being published after nearly six months of my posting the scientific analysis now in the book on my Internet blog site *The Dreamheron Chronicles* ([dreamheron.wordpress.com](http://dreamheron.wordpress.com)). During this period, the LIGO discovery has been forcefully and urgently installed worldwide, with one confirming follow-up discovery and a barrage of scientific “idea” papers that continue to build on and bolster those discoveries. There has arisen a global stratagem to resurrect Big Bang Cosmology on LIGO’s back – the cosmology that I thought I had laid to rest. Prize givers have been falling over each other to anoint LIGO. Taxpayer moneys have continued to flow apace to the LIGO cause both in the US and in India. These developments solidified my resolve to create a comprehensive physical document (and not just isolated electronic posts). Hence this book.

As was the case with my previous book *The Falsifiers of the Universe* (2015), this book too is an investigative report – to be distinguished from a scientific critique. The language of the book is direct and unsparing. As with my previous book I do not address esoteric mathematics or highfalutin theory. Instead I simply take my do-it-yourselfer’s toolbox to the experimental contraption that installed the discovery.

The title of this book derives from the famous statement of Noam Chomsky: *Moral cowardice and intellectual corruption are the natural concomitants of unchallenged privilege.*

The part about intellectual corruption is obvious in the present context. But where is moral cowardice?

Those who seek scientific glory but do not want to try to get there the honest way, and instead form a powerful and well-backed collective within which they can scam together with impunity are, in my view, cowards of a kind. For true science requires true moral courage: courage to negotiate enervating failures, courage to own up to mistakes, courage to entertain self-doubt, and courage to pick up again and begin again. People in the latter category, the working stiffs of science, seldom achieve fame and fortune. People in the former category, the glory hounds of science, readily do. And when they are exposed beyond repair, the same groups that once backed them now actively cover up for them. The media which once promoted them to high heaven now simply goes mum. If this is not collective moral cowardice and societal rot, what is?

1 August 2016

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 1: Shell Game*

When LIGO reports a waveform at its output, there is no way to tell what the corresponding input waveform is that was incident on the instrument from the sky. The latter waveform is in fact indeterminate. This is the end of the line for LIGO as an instrument of scientific discovery. But this feature of LIGO has been kept hidden, and then taken advantage of by slipping in a custom-tailored waveform in place of the unknown incident waveform. This is a veritable scientific shell game.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 2: Inculpatory Evidence*

Where there was conducted a controlled experiment with a known input waveform and a corresponding known output waveform, the crucial proof-of-concept waveform comparison was not reported publicly. Thus “inculpatory evidence” may have been suppressed.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 3: LIGO Fiction*

Neither the above experiment nor any other experiments reported provided any support for the assertion that LIGO measures movements down to a level of 1/10,000-th the diameter of a proton. This is a fiction on which the discovery rests entirely. LIGO functioned as an uncalibrated instrument when the three discoveries were reportedly made.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**

(Second Edition, August 2017)

*CONCLUSION 4: Mirror Mirror ...*

LIGO has a continuum of states of actuation, from single end-mirror vibration to both end-mirrors vibration and everything in between. The mirror motion could be linear or rotational or a combination. Also, the mirror motions are mechanically independent of each other. The LIGO laser beams can also go out of alignment in arbitrary directions. The observed output waveform does not tell us anything about the state of actuation that caused it. Thus the instrument remains uncharacterized and uncharacterizable in this regard as well. There is no way to tell that the state actuation corresponds to a gravitational wave (both end mirrors in coordinated, linear and axial vibration; laser beams in perfect alignment.)

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 5: LIGO Loss*

LIGO most definitely did not observe gravitational wave also because the signal it saw was attenuated in traveling from Washington to Louisiana. Gravitational waves do not attenuate like this. This diminution of amplitude is greater than can be explained away by detectors' relative geometric orientation. Additionally, this orientation-related diminution has been misestimated because of lack of knowledge of the antenna pattern. This pattern also is indeterminate, making LIGO worthless yet once again as a gravitational wave observatory. The attenuation cannot be explained away by the polarization state of the incoming wave because this polarization is an unproven conjecture that was *to be proved by LIGO*.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 6: On the sky?*

Conclusions 1-5 are all redundant, considering that the LIGO waveform-measurement instrumental procedure has been greatly botched. The LIGO output waveform is not “on the sky”. It a highly corrupted form of whatever signal was incident on LIGO. The input and the output signals can bear no resemblance, given how LIGO functions. In plain language, LIGO waveforms are worthless and unsalvageable.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 7: Size matters*

(Tentative): When the two LIGO arms are much smaller than the wavelength of a gravitational wave (as they are), they cannot detect a differential length change in the orthogonal arms when the wave passes by.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 8: Sleeping on the job?*

Rainer Weiss the LIGO instrument pioneer knew from the beginning that LIGO needed to be shielded from the geomagnetic environment. The completed LIGO instrument contains no such shielding.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 9: LIGO left out in the rain*

When the LIGO discovery was reported, only lip service was paid when it came to justifying why the signal was not due to the ubiquitous geomagnetic causes to which LIGO lay fully prone.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
(Second Edition, August 2017)

*CONCLUSION 10: Which planet is LIGO on?*

Absolutely no notice was taken of the forces on LIGO test masses arising from the effect of the Earth's static magnetic field on geomagnetic currents induced in the copious metal structures inside the LIGO tubes. This is a gargantuan botch-up job by a billion-dollar, thousand-man, decades-long project.

*from*

**UNCHALLENGED PRIVILEGE:**  
**The Billion-Dollar Trilateral Gravitational Wave**  
**Discovery Scam**  
**(Second Edition, August 2017)**

*CONCLUSION 11: Good for the gander...*

Simultaneous observation of a signal at two distant stations is a necessary but not a sufficient criterion for a gravitational wave. Rainer Weiss argued that such a simultaneity reported by Joseph Weber in 1969 as a possible discovery of gravitational wave was due to geomagnetic causes. The same is true for LIGO.

CONCLUSION 12:

LIGO CHIRP AND RINGDOWN

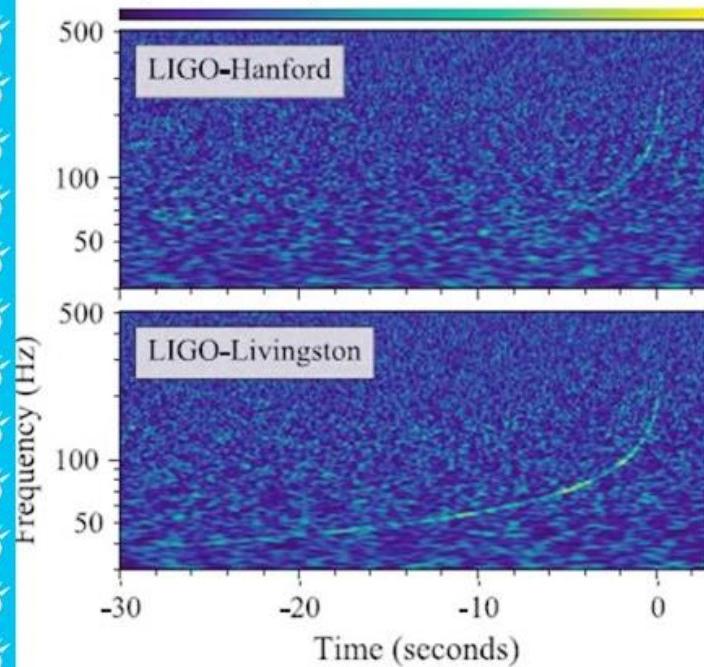
The chirp and the ringdown phenomena in the LIGO signal, if they are truly present in the original data, are results of instrument effect upon the actual incident disturbance. This disturbance actuates oscillations of inertial of masses which modify the original frequency content. The chirp and the rindown effects are due to instrument response.

COMMENT ON THE LIGO DISCOVERY OF NEUTRON STAR MERGER THAT CAME AFTER THE BOOK UNCHALLENGED PRIVILEGE WAS PUBLISHED:

## LIGO FIFTH FRAUD

On 16 October 2017 the world learned that LIGO had observed gravitational wave chirp from spiraling binary neutron stars as they approached to the point of collision. Then the collision happened, and confirming this, a gamma ray burst was picked up by a satellite. During the next few days some 70 telescopes worldwide picked up the electromagnetic signature of the event.

Of this story, only the portion in green is correct. LIGO glommed on to the front end of this story with a very elaborate and highly deceptive ruse.



The LIGO time-trace recording technique imposes a fundamental limitation on the highest-frequency signal LIGO can faithfully report. This frequency  $f_{\max}$  is less than 67 Hz. Of course digital analysis of the LIGO readout can show frequency content up to hundreds of Hz, and Ligonauts can cite all kinds of frequency response bandwidths. But anything above  $f_{\max}$

in the LIGO chirp diagram cannot be a signal faithfully recorded by the above technique. Anything below  $f_{\max}$  need not be gravitational wave. The chirp in the diagrams is not "on the sky".

But this point is irrelevant. LIGO is not validated a scientific instrument for detecting gravitational wave, period.

A world education message from Bibhas De 10/19/2017



## **"PEER REVIEW"**

Peer review is a general term that describes how proposed scientific ideas enter the main body of accepted science (established scientific truth or solid science being developed). The most common form of peer review is refereed publication in reputable journals. In physics the most reputable journal is *The Physical Review Letters*. This is where several initial LIGO discoveries were published, and other papers that positively build on LIGO were published.

Then there are the reviews that underlie the granting of funds. These are thought to be some of the most thorough reviews since many groups are competing for limited funds. Then there are the prizes and accolades which ostensibly follow a review process. LIGO went through many such review cycles with flying colors.

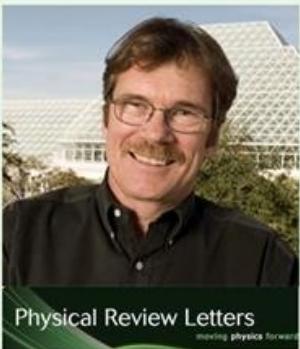
So how can one sustain an allegation of fraud against LIGO? Very easily. The COBE Satellite discovery also passed through all these review processes with flying colors. So did the BICEP2 discovery. Both were patently bogus discoveries.

So the "Peer Review" argument as a shield against charges of science fraud can be very readily dispatched in a court of law.



PHYSICS PUBLISHING GONE CORRUPT

## PEER REVIEW OR PIERRE REVIEW?



The journal *Physical Review Letters* has been legitimizing discovery after crappy discovery, and thus unleashing apocalyptic scourges upon the scientific civilization. This is NOT peer review! These editors and their referees are either all grossly incompetent or, worse yet, they are all conniving enablers of cozy cronies.

### Peer review maestro Pierre Meystre

Peer reviewed publication is the traditional process to ensure the quality of scientific results. If an idea is floated in the scientific arena that has not been published thus, scientists simply ignore it. This is necessary because a scientist, like any other professional, has to decide what he should profitably spend his time on.

But the old order is corrupted. The vanguard among physics journals is the *Physical Review Letters*, led by Pierre Meystre. It is said to be the toughest journal to get your paper published in. In recent times, it has been publishing a series of papers that are total crap parading as grand discoveries. I give you just two examples: BICEP2 and LIGO.

In the case of BICEP2, any competent instrument reviewer would have seen the stark absurdity of the reported sky swirls. And yet, an incredibly phenomenal discovery was published. But that is not all. They then proceeded to publish the cover up of the quack instrumentation job. They spun the original discovery report as an innocent misinterpretation of observations with a fine instrument.

In the case of LIGO likewise, anyone with an ounce of physics in his gut would see all kinds of red lights flashing (as indeed all the LIGO dissidents did.) And yet another phenomenal discovery was rolled out. But that is not all. They then continued to publish all kinds of derivative ideas based on this crappy discovery, coming from all kinds of crazies that came out of the academic woodworks following the discovery.

A world education message from Bibhas De 05/21/2017

# LIGO QUESTIONS

1. Why is it that 1000+ of the finest scientists and engineers spanning four decades could not spot blatant faults with the LIGO concept when ragtag dissidents could spot them the very moment the discovery was revealed?
2. Why is it that the LIGO leaders and the US Government (NSF) continued to maintain the discovery when they themselves knew all along that the discovery had unraveled?
3. Why is it that the entire scientific establishment endorsed, promoted, anointed, continued lavish taxpayer-funding, and built elaborate zany ideas on the LIGO discovery when it was their incumbent duty to do what the few dissidents did *gratis*?
4. Why did the establishment not act *after* the dissidents drew out the fault lines in red ink?
5. Three gargantuan frauds by collectives (COBE, BICEP2, and LIGO) now stand fully documented. Why is the world not told about this by the scientific establishment?
6. Who shall mete out justice in behalf of a gravely wronged world?

A world education message from Bibhas De 08/22/2017

## THE WORLD-CLASS EXPERTS BEHIND ENTRENCHING THE LIGO EXPERIMENTAL DISCOVERY OF BLACK HOLES MERGER



ARKANI-HAMED



EVANS



GREEN



GUTH



HAWKING



INCANDELA



KAJITA



KITAEV



KONTSEVICH



LINDE



McDONALD



MALDACENA



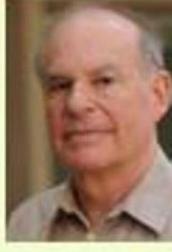
PERLMUTTER



POLYAKOV



RIESS



SHWARZ



SEIBERG



SEN



WANG



WITTEN



Abhay Ashtekar



Bala Iyer



Sanjeev Dhurandhar



Ananda Sengupta

Can someone tell the world just exactly which one of these two dozen hombres has the wherewithal to analyze the LIGO instrument of the uncharted experimental and engineering territory – that analysis which must form the basis of any endorsement?

A world education message from Bibhas De 05/17/2015



## COURTROOM DRAMA

Now we delve deeper.

Popular courtroom dramas on television suggest that this format may be an effective way of communicating logical points that may otherwise seem abstruse.

The other important point is that high and mighty scientists who may not give you the time of day are placed in a situation where they *have to* answer questions.

With a mafialike syndicate that LIGO is, with all its high power support structures that may include members of the United States Congress, there may be no other way to hold them publicly accountable than to haul them to court.



## LIGO COURTROOM DRAMA: Introduction

Scientific fraud – especially fraud at the highest, most rarefied levels of physics – cannot be understood by public in general. The best they can do is listen to generalized expert opinions and decide who they can trust. However, it is usually the party at fault which entirely controls what is communicated to the public. This is certainly the case with LIGO.

So I have long wondered how I can effectively explain the LIGO fraud to the butcher, the baker and the candlestick maker. How can the trusting public understand the hanky-panky that goes on in the backrooms of the inviolate temple of learning?

I have watched some courtroom drama on TV. And it has occurred to me that this can be a very effective vehicle to adopt here. The award of the Nobel Prize for this fraud has now prompted me to compose such a drama.

Starting with the next post, I will relate a courtroom drama series on LIGO. This is completely imaginary. Although I will use real names of real people (in public life and/or on public payroll), the statements I will have them making are not statements they ever made. But these statements will be consistent with the public persona they have presented in promoting and installing the LIGO fraud.

Now for the setting:

The LIGO Organization has been sued in the civil court by a taxpayer group that calls themselves *The Guardians of Civilization*. This group seeks to make LIGO regurgitate the public funds and to have a judge direct their criminal prosecution by the Government for science fraud and fraud against taxpayers. Remember the following names:

*Assumpta Veritas, Attorney for the Plaintiffs  
Vino Moscato, Attorney for the Defendants  
Asha Solomon, Judge*

This entry was posted on October 12, 2017 at 3:43 pm

# LIGO COURTROOM DRAMA: Trial Part 5

## TRIAL PART 5

ON THE WITNESS STAND: Edward Witten (for the Defendants)

VINO MOSCATO (Attorney for the Defendants): Good Morning, Professor Witten! Your reputation precedes you. You have been described as the smartest man on the planet; as someone possessing the mind of god; as a time traveler from future; as a peer to such physics greats as Lorentz. When you speak, the world listens. What is your opinion of the LIGO discovery?

EDWARD WITTEN: I have endorsed the discovery. As the Chair of the Award Committee for the Breakthrough Prize, I recommended the \$3 million Prize for LIGO.

MOSCATO: Have you recommended LIGO for any other prizes?

WITTEN: Many such recommendations are done in confidence. So I cannot answer that question.

MOSCATO: OK, let me put the question in another way: Are there any doubts in your mind about the LIGO discovery being correct?

WITTEN: None whatsoever.

MOSCATO: Thank you, Professor Witten. You have spoken, and the jury has listened. Your witness, Ms. Veritas.

ASSUMPTA VERITAS (Attorney for the Plaintiffs): Good Morning, Professor Witten. Would you describe for the jury in very simple terms what LIGO is?

WITTEN: LIGO is a very advanced scientific instrument for detecting something called gravitational wave. It has been described as mankind's highest achievement in measurement science.

VERITAS: Thank you. You used two descriptions: scientific instrument and measurement science. What is your background in scientific instrumentation?

WITTEN: I do not have any background in scientific instrumentation.

VERITAS: And what is your background in measurement science?

WITTEN: I do not have any background in measurement science.

VERITAS: So, on what basis do you certify that the LIGO discovery is correct beyond a shadow of doubt?

WITTEN: In such matters we scientists trust our colleagues to have done things right. The LIGO scientists have the highest competence. They have said they have observed gravitational waves, and I believe they have.

VERITAS: Trust. Belief. Are these the basis for evaluation of a scientific discovery?

WITTEN: You do not understand how science works.

VERITAS: OK, fine. But is it correct to say that you do not personally have the necessary expertise to certify anything about LIGO?

WITTEN: I am a String Theorist.

VERITAS: Answer my question please. Do you personally have the scientific qualification to certify LIGO? Yes or No?

WITTEN: No.

VERITAS: And all this business about mind of god and time traveling – do they have anything to do with the correctness of the LIGO discovery? Yes or No?

WITTEN: No.

VERITAS: I have no further questions for this witness, Your Honor.

ASHA SOLOMON (Judge): The witness is excused.

This entry was posted on October 12, 2017 at 5:10 pm

# LIGO COURTROOM DRAMA: Trial Part 7

## TRIAL PART 7

ON THE WITNESS STAND: France Cordova (for the Defendants)

VINO MOSCATO (Attorney for the Defendants): Dr. Cordova, would you please tell the court who you are and what your connection to LIGO is?

FRANCE CORDOVA: I am the Director of National Science Foundation which is an autonomous agency that funds scientific research. The agency has supported LIGO research to detect gravitational wave for decades. Through good times and bad, our support has remained unwavering.

MOSCATO: And what is the total amount NSF has invested in LIGO thus far?

CORDOVA: It is about a billion dollars.

MOSCATO: Was it worth it? If yes, would you tell the court why?

CORDOVA: It was worth every cent we spent. LIGO gave us the greatest scientific discovery ever made. An entire new field of astronomy – called gravitational wave astronomy – has opened up. It gives us a new window on the Universe. We today speak already of multi-messenger astronomy.

MOSCATO: That's great, Dr. Cordova. And how sure are you that the discovery is solid?

CORDOVA: I am absolutely sure. I have said so repeatedly in public and I have promised our continued support.

MOSCATO: And just to cover all grounds, has your agency's Inspector General received any complaints about LIGO?

CORDOVA: None that I am aware of. There is no cloud hanging over the LIGO discovery as far as the agency is concerned. It is one of the most vetted scientific results in history.

MOSCATO: Thank you, Dr. Cordova. Your witness, Ms. Veritas.

ASSUMPTA VERITAS (Attorney for the Plaintiffs): Good Afternoon, Dr. Cordova. You have given us a picture of LIGO within your agency that is one hundred percent worry-free and trouble-free. But that's not quite the case, is it?

CORDOVA: I don't know what you mean.

VERITAS: Well, your IG may not have received any complaints about LIGO. But did *you*?

CORDOVA: Well, actually, a referral to the White House about LIGO was forwarded to us. It had some concerns about LIGO.

VERITAS: Do you recall who made that referral?

CORDOVA: I believe it was Dr. De who is sitting here in the courtroom.

VERITAS: And what did you do about those concerns?

CORDOVA: We had actually supported – regardless of that complaint – a study of the role of geomagnetic disturbances on LIGO that was one of Dr. De's concerns.

VERITAS: OK, just so the jury can follow this issue, geomagnetic disturbances are of earthly origin while gravitational waves come from the far reaches of the Universe. The issue is which one of these LIGO is looking at. Looking at gravitational wave would mean a discovery. Looking at geomagnetic disturbance would mean no discovery. Is this correct?

CORDOVA: Yes, this is correct.

VERITAS: So then, what did that study conclude?

CORDOVA: I believe the study concluded that geomagnetic disturbances could mimic gravitational waves with respect to their simultaneous observation at multiple stations as well as the frequency content of the signal observed. It recommended that every LIGO station have the dedicated means of monitoring geomagnetic disturbances at a high level of accuracy. This monitoring is done with devices called magnetometers.

VERITAS: I will now read portions from the above study: "Going forward, Advanced LIGO and Advanced Virgo will have low noise magnetometers installed at each observatory site. It will be important to use the magnetometer data to identify coincident magnetic transient events, and veto those times.... Correlated noise will be a real and legitimate concern for gravitational-wave searches using ground based detectors."

In view of these findings, why aren't the past discoveries suspect? If geomagnetic disturbances will be of such crucial importance in future, why were they not an issue in the past? Why aren't the discoveries thus far suspect?

CORDOVA: We received assurances from the LIGO leaders that their discoveries thus far were shipshape.

VERITAS: Did it not occur to you that such assurances had to be false because no geomagnetic monitoring was available in the cases of the past discoveries?

CORDOVA: We took their word in implicit trust.

VERITAS: So you did not pursue this issue further?

CORDOVA: We had no reason to.

VERITAS: Would it have been within your authority to commission an independent engineering study of the LIGO instrument – independent of the LIGO organization? Such a study could be performed, for example, by a high-tech consulting company like *The Aerospace Corporation*?

CORDOVA: It would have been within my authority, but that thought never occurred to me.

VERITAS: Is this a failure of imagination?

CORDOVA: It is not usual for the agency to go outside the scientific establishment and order independent scientific investigations.

VERITAS: So – to summarize – you did receive a complaint about LIGO. You did conduct a study on it. The study gave categorical support to the complaint. But then you closed the matter based of assurances from LIGO and/or from LIGO proponents.

CORDOVA: We attended to the complaint. It had no merit. We moved on.

VERITAS: Who determined that it had no merit?

CORDOVA: The LIGO scientists did.

VERITAS: So you dismissed a complaint that is in scientific evidence as having substance, based on the recommendation of the very project against whom the complaint was made? And all this you did in a secret two-party dealing – NSF and LIGO?

CORDOVA: There is nothing secret about it. The study of geomagnetic disturbances was published.

VERITAS: Exactly where was it published?

CORDOVA: It was published in a special issue of the *Journal of Classical and Quantum Gravity*.

VERITAS: Is this even a remotely logical place to publish this study on the influence of geomagnetic disturbances on the LIGO instrument? Where do we get gravity here – classical or quantum?

CORDOVA: I cannot say why they decided to publish a paper in a particular journal. We do not micromanage the projects we fund.

VERITAS: Well, it seems to me that for various reasons the paper had to be published, but it was not desirable for it to become widely known. So it was buried in a journal where nobody would look for it.

MOSCATO: Objection, You Honor. Counsel is testifying.

JUDGE: Move on, Ms. Veritas.

VERITAS: Dr. Cordova, was the public informed of this highly significant geomagnetic study in any of the many LIGO public outreach forums where LIGO progress and LIGO developments were constantly being broadcast, bandied about and glorified upon?

CORDOVA: I don't know the answer to that.

VERITAS: And after that study you still maintain that the discovery is one hundred percent solid?

CORDOVA: I certainly do.

VERITAS: Did it occur to you to inform the Nobel folks of this little-known but highly relevant study you conducted, a study that placed the LIGO discoveries in serious question?

CORDOVA: We do not get involved with the Nobel process.

VERITAS: Are you aware of two other independent studies – one from Japan and one from Russia – suggesting LIGO may have observed just geomagnetic disturbances? These studies were published even as LIGO was undergoing evaluation for the Nobel Prize.

CORDOVA: No. We are not researchers ourselves. We would not know of such studies unless LIGO or others inform us.

VERITAS: And now learning about those studies, you still maintain that the discovery is one hundred percent solid?

CORDOVA: Obviously I cannot answer that without having those studies you mention looked at, and receiving advice.

VERITAS: And who would be doing that looking and advising? LIGO? Would you be satisfied with more assurances from LIGO leaders?

CORDOVA: I suppose a completely independent report could be commissioned from outside the scientific establishment.

VERITAS: It would be a little late, wouldn't it? The Nobel Prize has already been awarded and it is irrevocable.

CORDOVA: We are not responsible for what the Nobel people do.

VERITAS: I have no further questions for this witness, Your Honor.

JUDGE: The witness may step down.

This entry was posted on October 13, 2017 at 10:06 am

# LIGO COURTROOM DRAMA: Trial Part 8

## TRIAL PART 8

ON THE WITNESS STAND: Rainer Weiss (for the Defendants)

VINO MOSCATO (Attorney for the Defendants): Professor Weiss, it is an honor to have you here. Congratulations on your Nobel Prize. Now, we know that you do not read stuff Dr. De puts out on the Internet or his book on LIGO. But at my request, you read that book before coming here. What is your reaction?

RAINER WEISS: I believe he cannot understand that LIGO is a novel instrument which cannot be judged by conventional instrumentation concepts.

MOSCATO: So is his entire book dismissible?

WEISS: I believe so.

MOSCATO: Is it correct to conclude that Dr. De is wallowing in his own misunderstandings in his book?

WEISS: I think that's right.

MOSCATO: Thank you, Professor Weiss. I will not burden you further with this sort of thing. Your witness, Ms. Veritas.

ASSUMPTA VERITAS (Attorney for the Plaintiffs): Good Morning, Professor Weiss. Let's get right down to it. Does the LIGO instrument have an input signal and an output signal, and if so, what are they? Also, for the ease of understanding, let us use the term wiggle for signal.

WEISS: Yes, there is an input wiggle and there is an output wiggle. The input wiggle would be a time trace of a number that is the linear size of something that is being sequentially contracted and expanded by the passage of a gravitational wave. The output wiggle would be this same wiggle as reported by the LIGO measuring system.

VERITAS: And the two wiggles are different?

WEISS: Yes.

VERITAS: So, is Dr. De correct in describing LIGO as a two-port instrument with an input port and an output port?

WEISS: We don't look at it this way, but that description is OK up to a point.

VERITAS: And is he correct in saying that the input wiggle and the output wiggle – which *are* different – are related by an *Instrument Transfer Function* which must be determined and reported for LIGO to be a valid scientific instrument?

WEISS: This is where his confusion begins. What we do with LIGO is take the output wiggle as reported by LIGO, remove the noise component from it, and what remains is the input wiggle. This process is our equivalent of the conventional Transfer Function. The Instrument Transfer Function procedure is not applicable to LIGO.

VERITAS: Thank you for that clear statement. And the stuff you remove as noise, where does it come from?

WEISS: There are very many sources of noise – seismic ground vibration, a truck passing by, waves lapping on shore, distant thunder, ... , And then there are also many types of instrument-originated noise.

VERITAS: When you speak of noise here, anything that is not gravitational wave signal is noise. Is this correct?

WEISS: Yes.

VERITAS: Very good. So, let us make a list of all possible external noise sources and label them A through K, say. Then all instrument-originated noise L through P, say. And let Q be the gravitational wave signal. So when your computer takes out the noise part, does it subdivide the noise into all these categories A through P, and show the tabulated values for the categories?

WEISS: Of course not. Our sophisticated digital technique can distinguish between signal and noise, and remove all that it identifies as noise, namely, A through P taken as a consolidated lump. Only the signal Q then remains, and that is the input wiggle. This is what we compare with the theory wiggle for black hole merger.

VERITAS: But the instrument-originated noise L through P is different from external noise A through K. The latter is not dependent on LIGO, the former is. It is more likely than not that L-P is correlated with Q, the input signal. The “noise” L-P could be harmonics of Q, for example. If your algorithm has instruction to take out L-P, would not it take out some of Q as well? Or wouldn't it leave some of L-P with Q? You simply cannot lump together A-K and L-P for the purpose of extracting Q. It may be convenient for the computer, but it is wrong physics.

WEISS: Now we are getting into complicated areas.

VERITAS: Not at all. We have just clarified *your* misunderstanding. It is the components L through P that necessitate the Instrument Transfer Function, not A through K. You are mixing up and mishandling them, and you are doing so to your benefit. By bypassing the Transfer Function procedure, you have given yourself leeway to make up your custom discovery wiggles from the data. There is nothing about LIGO that cannot be described and analyzed in terms of conventional instrument concept. What is your response to that?

WEISS: As I said, this subject is too complicated.

VERITAS: OK, let's move on. As Dr. De has pointed out in his book, there is no written evidence anywhere that you have taken into account the Earth's static magnetic field on the LIGO instrument all these years. What do you have to say about that?

WEISS: This effect is being studied.

VERITAS: So are your discoveries valid even though you left out this effect?

WEISS: This effect cannot be so important as to invalidate our discoveries.

VERITAS: And then Dr. De has also pointed out that you take the hypothetical properties of gravitational wave as true and operative, to deduce the passage of gravitational wave. You assume that the mirror motions are invisibly entangled (because a gravitational wave is passing through) to prove that a gravitational wave has passed through. There is absolutely no experimental evidence of any kind that the mirror motions are in invisible entanglement. This is a pure flight of fancy that leads you to report a tangible discovery.

WEISS: As I said, this is too complicated.

VERITAS: Dr. De has also shown that LIGO is not a complete scientific instrument. I believe the expression he used is "it is not all there." LIGO cannot detect gravitational waves even if they existed and traversed LIGO. That is because it is the invisible entanglement of the mirrors that LIGO must experimentally demonstrate to report the detection of the wave. And LIGO has no way to do this.

WEISS: We have detected gravitational wave – four times now.

VERITAS: So you say. Professor Weiss, who is wallowing in his own misunderstanding, you or Dr. De? And what about your 1000 colleagues?

MOSCATO: Objection, Your Honor. There is no cause for this kind of taunt.

JUDGE: Overruled. You started this, Mr. Moscato!

VERITAS: Your Honor, I have no further questions.

JUDGE: The witness is excused.

This entry was posted on October 13, 2017 at 4:12 pm

# LIGO COURTROOM DRAMA: Trial Part 10

## TRIAL PART 10

ON THE WITNESS STAND: Professor Karsten Danzmann (for the Defendants)

VINO MOSCATO (Attorney for the Defendants): Greetings, Professor Danzmann. You are the Director of the Max-Planck Institute for Gravitational Physics, and a major player in LIGO. One of the scientific areas you are concerned with is calibration of the LIGO instrument. My first question to you is this: Is the LIGO instrument calibrated?

KARSTEN DANZMANN: It is.

MOSCATO: And has this calibration been documented?

DANZMANN: It has been extensively documented. It involves painstaking research involving controlled moving of the LIGO mirrors, and noting the LIGO instrument readout corresponding to this mirror movement. This is followed by extensive scientific and technical analysis.

MOSCATO: Is this the kind of technical complexity you were referring to when you told one Wolfgang Engelhardt that LIGO calibration is too complicated to understand?

DANZMANN: Yes. He expected simple or simplistic answers, but they are not often available at the cutting edge of scientific instrumentation.

MOSCATO: Very fine! So you did not intend any slight to Engelhardt?

DANZMANN: Of course not.

MOSCATO: Is the LIGO calibration science Engelhardt wanted to know about all recorded in the public domain? I mean, nothing he would need to understand the calibration procedure has been classified or kept from the public?

DANZMANN: Everything necessary to understand LIGO calibration is in the public domain. Someone capable of understanding this will see that LIGO is a properly calibrated instrument.

MOSCATO: Indeed! It is quite obvious that the Nobel Prize deliberation committee has understood and accepted as valid the calibration. And that is the final imprimatur on the calibration procedure – a kind of certificate of operability. Wouldn't you say?

DANZMANN: I think it is self-evident.

MOSCATO: Thank you, Professor Danzmann. Your Witness, Ms. Veritas.

ASSUMPTA VERITAS (Attorney for the Plaintiffs): Professor Danzmann, let us stipulate that LIGO calibration is a highly complex and highly specialized area of science and technology. Let us leave that aside altogether. Could you, in very simple terms, describe for the jury what calibration is?

DANZMANN: Certainly. I will be happy to. Consider a situation familiar to all of us. You have been to the doctor's office and they put you on that stand which measures your height. They lower the sliding angle until it touches your head, and read off the height from the scale on the stand there. Now, how was that scale marked by the manufacturer of the instrument? What they did is build the stand that is now blank – without any markings. So they take an eight-foot length standard, say. This standard has been measured elsewhere to be exactly eight feet long. The manufacturer places this on his stand and makes a mark for eight foot length. Now he can put the standard away and subdivide that length and place marks every foot, every inch, every half-inch etc. This is calibration.

VERITAS: Thank you. And now, staying with your medical analogy, suppose a surgeon has taken out a group of gallstones and needs to measure them. How would he do that?

DANZMANN: I don't know what they actually use, but a pair of Vernier calipers would do very well. It can measure sizes in the millimeter range and below.

VERITAS: What length standard would be used in calibrating that instrument? Would the eight-foot standard do?

DANZMANN: No. Here they have to use millimeter length standard.

VERITAS: Good. Now back to LIGO. Is it true that in the actual situation of detecting a gravitational wave, the LIGO mirror moves to, or is displaced by, the extent of one ten-thousandth of a proton diameter?

DANZMANN: Yes.

VERITAS: And your highly complex LIGO calibration procedure – does it displace the mirror in this range?

DANZMANN: No. We move the mirror by a distance that is orders of magnitude larger.

VERITAS: So, Professor Danzmann, by what you have explained yourself with regard to length standards, the LIGO instrument was never calibrated for measuring gravitational wave. Do you agree?

DANZMANN: No. You have oversimplified the issue.

VERITAS: What is there to oversimplify? Either LIGO was calibrated using a displacement standard near ten-thousandth of a proton diameter or it was calibrated using a displacement standard orders of magnitude larger. Which one is it?

DANZMANN: It is the larger, but it works for the smaller case also. How it works is much too complicated to describe here.

VERITAS: Have you described the justification for this unheard-of orders-of-magnitude extrapolation in any public document?

DANZMANN: Well, not directly.

VERITAS: Are you saying that this is so complex that trained scientists like Professor Engelhardt who worked at a Max Planck Institute or Dr. De who holds measurement and instrumentation patents cannot understand? Is this the “You do not understand” response for which LIGO has become so famous?

DANZMANN: Well, clearly the Nobel evaluators could understand; and clearly the entire physics establishment could understand. So we are talking about a couple of people disagreeing with a total scientific consensus.

VERITAS: So now we are moving to the Democracy argument. Is that the ultimate arbiter of science?

DANZMANN: Scientific consensus has always been the way science progresses.

VERITAS: For the calibration that you did do, have you presented side-by-side comparison of the mirror displacement trace vs your instrument readout trace. If not, why not?

DANZMANN: We have not. And the answer is too complicated.

VERITAS: Professor Danzmann, I submit to you that – all other faults aside – LIGO was never calibrated for detection of gravitational wave. What calibration you have done is faulty. I submit to you that Professor Engelhardt and Dr. De are the only people on record as having actually understood the LIGO calibration science. I submit to you that all along you have been trying to snow the critics with this complication argument. I submit to you that your vaunted

Nobel certification of your calibration procedure is not worth the piece of paper it is written on.

DANZMANN: You are entitled to your views.

VERITAS: Your Honor, I have no further questions.

JUDGE: Any redirect, Mr. Moscato?

MOSCATO: Yes, Your Honor. Professor Danzmann, is it correct that you are a highly decorated scientist, adorned with such distinctions as the Korber Foundation Prize and the Lower Saxony Prize?

DANZMANN: I was given those prizes.

MOSCATO: No further questions, You Honor.

JUDGE: The witness is excused.

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# LIGO COURTROOM DRAMA: Trial Part 11

## TRIAL PART 11

ON THE WITNESS STAND: Professor Rana X. Adhikari (for the Defendants)

VINO MOSCATO (Attorney for the Defendants): Good Morning, Professor Adhikari. It is indeed a pleasure to have the symbolic face of LIGO's cadre of young geniuses to testify in this court. I am sure the jury would love to hear from you on the noble path of knowledge of the Universe LIGO has embarked upon. Would you tell us a little about yourself?

RANA X. ADHIKARI: I am a professor of physics at Caltech and a LIGO researcher.

MOSCATO: And a very young professor at that! Let me add for the jury that Professor Adhikari is one of the famed young bucks of the LIGO Science Collaboration, representing the new hope for physics in this millennium. He also happens to come from a Nobel pedigree – he was a doctoral student of LIGO Nobel Laureate Rainer Weiss. He is the instrument genius student of his instrument genius guru. His scientific authority in matters LIGO is unassailable. Now, Professor Adhikari, tell us briefly your position on the veracity of the LIGO discovery of neutron star merger just reported.

ADHIKARI: It is a most perfect scientific discovery with copious confirmations. There should be no doubt in anyone's mind.

MOSCATO: Thank you for enlightening the jury with that comment. Do you, with your full scientific authority, reject the Plaintiffs' claim that the LIGO discoveries are fraudulent?

ADHIKARI: I do.

MOSCATO: And Professor Adhikari, you have been particularly involved in educating the masses on the beauty of the LIGO instrument, with your personal 'like hey' flair. You have explained how LIGO indeed can measure incredibly small movements, movements to a scale far smaller than the molecular-scale surface roughness of a mirror and the thermal vibrations of molecules. Some have tried to use this point to cast doubt on LIGO. What would you say to the public on this subject?

ADHIKARI: We are very careful scientists, and we know how to do our job.

MOSCATO: Excellent. I think that puts paid to all the criticisms from all the amateurs who are gunning for LIGO in the shady world of the Internet. I am sure the world citizenry will have the right instinct to believe you before they will believe those characters. Thank you, Professor Adhikari. Your witness, Ms. Veritas

ASSUMPTA VERITAS (Attorney for the Plaintiffs): Professor Adhikari, counsel for the defendants has certainly given us compelling grounds to submit to your authority on LIGO. Let me just cover a couple

of points here for the jury. Is it true that you have been a leading force in planning to install a LIGO station in your old country India?

ADHIKARI: Yes.

VERITAS: And is it true that you said that the India LIGO has the advantage of being able to avoid the mistakes of the US LIGO? That you would redesign India LIGO?

ADHIKARI: Yes, but that has nothing to do with the correctness of the LIGO discoveries thus far.

VERITAS: Now, Professor Adhikari, Dr. De here has said many times that when there is something obviously wrong with an observing instrument, it is totally useless to discuss any results from it – no matter how impressive, no many times confirmed etc. Do you agree with that position?

ADHIKARI: That's truism.

VERITAS: Very good. So we will proceed on that note and talk about the LIGO instrument. Then we will come back to the neutron star merger issue. Now, the citizens of the world have been constantly regaled with the fact that LIGO is so sensitive an instrument that it can sense a car driving by a mile away, waves lapping on the shores of the far ocean, a LIGO scientist pedaling his bicycle nearby ...and so on. Are these stories correct?

ADHIKARI: Yes, LIGO is indeed that sensitive.

VERITAS: Is the point of this public education that if LIGO can astoundingly sense such things, it can also pick up gravitational waves from billions of light years away?

ADHIKARI: Yes.

VERITAS: Professor Adhikari, does LIGO pick up all these disturbances we have just spoken of in the same way – that is by the same instrumental mechanism – as it picks up gravitational waves?

ADHIKARI: Well ... er... no. These disturbances are picked up because things go haywire inside LIGO in random ways. A mirror may move, a laser beam may go out of alignment, etc. But a gravitational wave causes LIGO to respond in a very specific and very predictable way.

VERITAS: Then LIGO picking up those disturbances says absolutely nothing about the LIGO sensitivity, does it? It is in fact a completely bogus story that has been spread around the world.

ADHIKARI: We are using a science-popularizing technique. We were not trying to be pedantic here with the general public.

VERITAS: I see. OK, for the sake of clarity, let us say the disturbances we have just spoken of that cause LIGO to go haywire in random ways are recorded by LIGO in *Class A Operation* which involves misalignment of the laser link, a mirror tilting off-axis etc. And the gravitational wave is picked up by *Class B Operation* which involves a perfectly aligned laser link and systematic movement of the

mirrors, along their axes only – without any rotational or sideways motion. Is this an acceptable framework for discussion?

ADHIKARI Yes.

VERITAS: Now, in this scheme, how would geomagnetic disturbances be picked up?

ADHIKARI: They would be picked up in Class A Operation.

VERITAS: So it is only gravitational wave – and nothing else – that concerns the Class B Operation?

ADHIKARI: Yes.

VERITAS: Professor Adhikari, what is Class B Operation?

ADHIKARI: It is a very specific mode of actuation of LIGO. The two mirrors move forward and backward along their axes; and they move in concert, even though there is no mechanical or electromagnetic linkage between them. They have in fact been hung to move independently of each other. So these mirrors are in a kind of invisible entanglement – somewhat like quantum entanglement. When one mirror moves towards the apex of LIGO – the corner of the LIGO ell, the other moves away from that point. In this way the two mirrors move in lockstep. And the amplitude by which a mirror moves under the influence of a gravitational wave is on a scale of one ten-thousandth of a proton diameter.

VERITAS: So LIGO is always operating in Class A mode. Only when a gravitational wave is incident, the Class B mode comes into play. Is this correct?

ADHIKARI: Yes. In that case we have both Class A and Class B Operations occurring simultaneously.

VERITAS: So when you detect a gravitational wave, what is the experimental evidence that Class B Operation has been actuated? What is the evidence that the mirrors are entangled as though through some mysterious, invisible bond? What is the evidence that the mirror displacement is near one ten-thousandth of a proton diameter – a quantum-scale distance?

ADHIKARI: We do not monitor these effects directly. We cannot. If the LIGO readout wiggle matches our model of black hole merger wiggle – after the removal of noise of course – then that fact in itself proves that Class B operation has taken place.

VERITAS: So the matching of the two wiggles confirms in one fell swoop four independent theoretical conjectures: passage of gravitational wave; black hole merger; entanglement of mirrors; and the movement amplitude on a quantum scale. One endpoint agreement confirms four highly esoteric theoretical conjectures. Is that correct?

ADHIKARI Yes.

VERITAS: And you do not see any logical problem with this?

ADHIKARI: No. The detailed agreement between two wiggles can confirm multiple conjectures. The scientific establishment and the Nobel Prize givers do not have any problems with this.

VERITAS: And is this agreement pristine in the sense that you remove the noise and out pops a wiggle that then matches one of your theory wiggles?

ADHIKARI: Actually this is a guided agreement in the sense that we window our theory templates through the data string and look for matches.

VERITAS: And you still think this agreement satisfactory confirms – jointly and singly – all four independent conjectures, none of which has any other support in the LIGO operation?

ADHIKARI: Yes.

VERITAS: Is it correct then to say that the LIGO instrument is validated by the discovery it makes, and only by the discovery it makes?

ADHIKARI: In a way.

VERITAS: And you do not see any logical problem with this scientific procedure?

ADHIKARI: No. It is not possible to test LIGO on any kind of standardized source. We do not have any other options.

VERITAS: Now, Professor Adhikari, the noise from Class A Operation and the signal from Class B Operation – when they appear together in the LIGO readout, they are superimposed on each other in the sense that you can separate one from the other. Is that correct?

ADHIKARI: Yes, but the separating is a complex digital procedure.

VERITAS: I want to clarify my question. The wiggle that you obtain after separating from the noise is the same wiggle that would appear in the readout if there were no noise at all?

ADHIKARI: Yes.

VERITAS: And that is the wiggle that was incident on LIGO and is to be matched to the black hole merger model wiggle?

ADHIKARI: Yes. But the matching is more or less already done because we have used the theory wiggle template to match and extract out the signal wiggle.

VERITAS: So is it correct to say that Class A and Class B Operations are independent of each other?

ADHIKARI: Yes.

VERITAS: Professor Adhikari, listen to me closely. This is very important. Consider an instant of time in which a gravitational wave is being recorded by LIGO. At that instant, the laser link is misaligned or a mirror is tilted due to the Class A Operation. So the LIGO instrument at that instant is in a changed configuration. And it is that changed LIGO that is registering the gravitational wave at that instant.

This means that Class A Operation not only adds noise but actually distorts the Class B signal. The noise and the signal are not additive. They become inextricable. This is no longer an issue of separating egg yolk from egg white. The egg is scrambled. Do you understand my point?

ADHIKARI: I am not sure. I think I am being trapped.

VERITAS: Professor Adhikari, this is a court of law and no one is trapping you. I am not schmoozing with you. I have asked you a question. Answer it please.

ADHIKARI: What you say sounds right but the real issue is if it is of any significance.

VERITAS: Do you know for a fact that this is not significant?

ADHIKARI: No.

VERITAS: Since noise is dominant in LIGO, common sense tells us that this effect is important. LIGO is an unconventional scientific instrument not because it is novel but because it is weird. But the bottom line is that LIGO readout contains signal and noise completely scrambled and cannot be separated. That is the LIGO weirdorama. Do you agree?

ADHIKARI: I cannot answer that question right off the bat. I would have to think about it.

VERITAS: Professor Adhikari, how long is your laser link that undergoes jitter – if we can use that term for misalignment etc. – to produce Class A noise?

ADHIKARI: It is 4 km on each side of the LIGO ell for the two US stations.

VERITAS: I will rephrase my question. How long is the effective laser link?

ADHIKARI: I am sorry. I spoke too soon. The effective link is 1200 km because of the light storage technique we use to accumulate measurements.

VERITAS: So the Class B signal undergoes 1200 km of link jitter that has been created by Class A Operation. Have you studied the importance of this instrumental signal distortion?

ADHIKARI: I have not. But someone else may have.

VERITAS: But it is clear that LIGO does not take into account the instrumental distortion of the Class B signal due to Class A Operation. Is that correct?

ADHIKARI: We have not addressed this in an explicit way.

VERITAS: And it is this instrument-distorted wiggle that you compare with theory to find perfect match. What does this match mean?

ADHIKARI: I cannot answer this question immediately.

VERITAS: OK, let us talk about the chirp that clinched the neutron star discovery. For the jury, chirp means an increase in the signal frequency with time. Now, according to the LIGO theory, this chirp is due to the LIGO mirrors oscillating mechanically with the same increasing frequency in its Class B Operation. Is this correct?

ADHIKARI: Yes.

VERITAS: Now, for the light storage measurement technique, a 1200 km effective length can be shown to be good for measuring mirror vibration frequencies up to  $\sim$  70 cycles per second. But in the neutron star merger case, your chirp happens in the  $25 \sim 300$  cycles per second range and perhaps higher. What is your response?

ADHIKARI: We get that frequency range from digital analysis of our readout.

VERITAS: And that analysis can provide more information than what the instrument has gathered?

ADHIKARI: It is complicated.

VERITAS: Furthermore, whatever chirp you can find correctly is not relevant since gravitational wave signal – if it exists – is not extricable from the noise. The chirp cannot be ascribed to the wave, even if it was registered by LIGO.

But this is all superfluous. LIGO cannot detect gravitational wave because it cannot demonstrate quantum theory-like mirror entanglement or quantum-scale macroscopic mirror movement. There is neither any direct nor any indirect evidence of any kind that these fanciful conjectures materialize in LIGO.

ADHIKARI: That's a preposterous statement. The whole scientific community has accepted our result as a spectacular discovery. You are nitpicking. You are making too much of some trivia.

VERITAS: The trivia is simply that your neutron star merger diagrams are not “on the sky”. They are some type of instrumental-digital artifact, triggered by some terrestrial disturbance. You needed 100 seconds worth of action from that disturbance to bridge it to the gamma ray burst time, and there the artifact has served well.

ADHIKARI: The journal *Physical Review Letters* has certified that our results are on the sky.

VERITAS: Do you agree with the fatal LIGO instrument faults I have described?

ADHIKARI: I don't know. I mean you ... how can someone like you argue with the decision of the Nobel Prize Committee which has certified LIGO?

VERITAS: Mr. Adhikari, as I told you, this is a court of law. The Nobel Prize has no special standing here. Only facts have. Your Honor, I have no further questions for this witness.

JUDGE: Redirect, Mr. Moscato?

MOSCATO: Yes, Your Honor. Professor Adhikari, you do not admit that there is anything the matter with the LIGO discoveries, do you?

ADHIKARI: No, I do not.

MOSCATO: No further questions.

JUDGE: The witness is excused.

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# LIGO COURTROOM DRAMA: Trial Part 13

## TRIAL PART 13

ON THE WITNESS STAND: Kip Stephen Thorne (for the Defendants)

VINO MOSCATO (Attorney for the Defendants): Professor Thorne, Congratulations on your Nobel Prize. I am just thrilled to be speaking to you, even if under these circumstances. Our jury is very fortunate to be hearing from not one, but two Nobel Laureates. I doubt if any greater scientific authority has gathered under a courtroom roof before. Now, Professor Thorne, do you stand by the five LIGO detections to date?

KIP STEPHEN THORNE: I do.

MOSCATO: And are you apprised of the issues that the so-called LIGO dissidents have raised about these discoveries?

THORNE: In a summary way.

MOSCATO: And what is your assessment of their objections?

THORNE: I did not find any substance in them.

MOSCATO: So would you say that, as far as the validity of the five detections is concerned, the body of objections can be dismissed?

THORNE: I would say that.

MOSCATO: Professor Thorne, who do you think is qualified to review the LIGO instrument?

THORNE: The same people who have reviewed and endorsed LIGO all these years: The members of the National Review Board, the referees of *The Physical Review Letters*, the selection panels of the many prize-giving bodies, and so on.

MOSCATO: So, throughout its history, LIGO has faced constant and competent vigilance. It has in fact faced the full brunt of the scientific process, with all its safeguards, with all the self-policing. Are all these correct??

THORNE: They are.

MOSCATO: And based on what you have been apprised on the LIGO dissidents, are they qualified to critique LIGO?

THORNE: Look, LIGO is a highly complex scientific program that has evolved over decades. You cannot just come in cold, and start poking holes. That is not a scientific activity.

MOSCATO: Do you think LIGO has any obligation to answer the dissidents?

THORNE: We will always answer criticisms that are properly posed in a proper way. We will answer them at a proper time and in a proper forum. But we simply cannot go answering everything that anyone posts on the Internet. That will be the death of scientific progress.

MOSCATO: Thank you, Professor Thorne. I have no further questions at this time. Your witness, Ms. Veritas.

ASSUMPTA VERITAS (Attorney for the Plaintiffs): Good Morning, Professor Thorne. You are the world's leading expert on gravitation and gravitational waves. Is that correct?

THORNE: I would say one of the experts.

VERITAS: Thank you. You are also a theoretical physicist and a physics educator. So is it correct to say that you are thoroughly knowledgeable on the general subject of wave behavior?

THORNE: Yes.

VERITAS: Is it correct to say that the fundamental aspects of known wave behavior apply to gravitational wave?

THORNE: Up to a point. But we have to consider each specific comparison in detail.

VERITAS: OK, so let's do such a specific comparison. Suppose an electromagnetic wave is traveling past us. It is linearly polarized. Its wavelength is 10 meters. Suppose I have a linear dipole antenna 1 centimeter long. By orienting this antenna, would I be able to determine the plane of polarization?

THORNE: I would say no. The antenna is too small for this purpose.

VERITAS: Can you elaborate?

THORNE: A wave cannot resolve structures that are smaller than about one-third the wavelength. Let's look at it this way. You are looking at your antenna in the light of that wave. Then all you will see is just a tiny blur, with no definition. Therefore such an antenna cannot determine the polarization and the direction of travel.

VERITAS: And would this be true for a gravitational wave? Do gravitational waves have polarization?

THORNE: Yes, it would be true. And gravitational waves also have states of polarization. In LIGO, for instance, polarization causes one arm to expand while the other arm contracts, and vice versa. This is why LIGO works in the first place.

VERITAS: Thank you for that explanation of polarization. So we now understand that without polarization there would be no LIGO. Now, Professor Thorne, what is the typical dimension of the LIGO antenna?

THORNE: Four kilometers.

VERITAS: And what is the typical wavelength of the gravitational wave LIGO is trying to detect?

THORNE: It is thousands of kilometers.

VERITAS: So LIGO is much smaller than the wavelength. How can LIGO see the state of polarization?

THORNE: Well .. er .. LIGO accumulates measurements many times, making the effective length of the LIGO arm 1120 kilometers. So, LIGO is not small compared to the wavelength after all.

VERITAS: Are you saying that the fundamental physics limitation of small antennas you have just explained can be defeated by accumulating measurement many times?

THORNE: It is more complicated than that.

VERITAS: OK, let us go back to the electromagnetic wave example. If I use a storage-type oscilloscope to accumulate measurements with that small antenna, will I be able to determine the plane of polarization of the wave?

THORNE: Well... er... I cannot say right offhand.

VERITAS: Then I will say. The answer is a definite no. You cannot defeat physics of waves this way. The same is true for gravitational wave. You cannot use an antenna that is a thousand times smaller than a wavelength to sense polarization. From the point of the incoming wave, your antenna is just an indistinct speck. And since sensing polarization is how LIGO works, it is not a valid instrument. Do you agree with this statement?

THORNE: No. The scientific establishment has accepted the LIGO results.

VERITAS: Is that your entire answer to the physics fallacy at the very core of LIGO I have just pointed out?

THORNE: Yes.

VERITAS: Your Honor, I have no further questions.

JUDGE: Redirect, Mr. Moscato?

MOSCATO: Yes, Your Honor. Professor Thorne, is it not true that not only the entire scientific establishment agrees with you, but that the Royal Swedish Academy of Sciences agrees with you solidly enough to give you the Nobel Prize? Isn't it true that scientific consensus is as total on LIGO has it has ever been on anything?

THORNE: It is true.

MOSCATO: No further questions.

JUDGE: The witness is excused.

This entry was posted on October 29, 2017 at 11:02 am

# LIGO COURTROOM DRAMA: Trial Part 15

## THE BARE-BONES LIGO DETECTOR



These two mirrors on a vast field hang freely from independent overhead support structures. Extreme care has been taken to see the mirrors are not mechanically linked in any way. They vibrate/jitter randomly on their own when there is earth tremor, when a vehicle is passing nearby, when an electromagnetic disturbance is incident, and so on.

When a gravitational wave (GW) comes down from the sky (vertically to the plane of the paper, say), GW theory says that the mirror oscillations become concerted. When one mirror moves forward along its axis, the other moves backward, and *vice versa*. It is as though there is an invisible mechanical entanglement of the mirrors. So this is the effect of the gravitational wave on the LIGO instrument. This concert is what LIGO needed to experimentally demonstrate as happening, if it was to be a detector of GW.

And that is precisely what LIGO cannot demonstrate experimentally. A cock-and-bull story has been made to cover up this fact, to bypass it, to shunt around it, to gloss over it, to not address it. If some Joe Blow brings this up, they ignore him using their establishment power, media power, and Nobel power.

In no way, shape or form is LIGO a detector of gravitational wave. It is a billion-dollar piece of junk that has been promoted as a work of great genius. The world has never seen anything like this.

## TRIAL PART 15

ON THE WITNESS STAND: Olga Botner (for the Defendants)

VINO MOSCATO (Attorney for the Defendants): Professor Botner, you are a member of the Committee that awarded the 2017 Nobel Prize in Physics. You had no obligation to come to this court, but you agreed to help the defendant Nobel Laureates in this case to the extent you can. The defendants are grateful for that. The parties in this case have stipulated that because of the Nobel secrecy rules, there are some areas we cannot go into. So if we ask any questions in those areas, you may simply decline to answer. Now Professor Botner, you and the Chairman of your Committee, Professor Nils Martensson, are two world-renowned experimentalists on the Committee, are you not?

OLGA BOTNER: We are experimentalists, yes.

MOSCATO: So is it correct to say that the two of you – who by the way work at the same place – that you have fully evaluated the LIGO experiment personally and collaboratively to your satisfaction before deciding on the award?

BOTNER: I cannot answer who evaluated what and how.

MOSCATO: But can you say if there are any doubts about the instrument being perfect?

BOTNER: Obviously, since we have given the Nobel Prize, there are no doubts.

MOSCATO: Thank you, Professor Botner. I have no further questions at this time. Your witness, Ms. Veritas.

ASSUMPTA VERITAS (Attorney for the Plaintiffs): Good Morning, Professor Botner. Were you and your fellow committeemen aware about any issues that had been raised by some critics about the LIGO instrument when you were deliberating on this award?

BOTNER: I cannot answer that.

VERITAS: OK. I will ask this another way. LIGO has two mirrors that are about 5.7 kilometers apart, and are not mechanically coupled in any way. The mirrors hang freely. The axes of the two mirrors are at right angles. Would that be a correct description?

BOTNER: In a simple way, yes.

VERITAS: We will keep it simple then. These mirrors move or oscillate or vibrate for a number of reasons: earth tremors, vehicles passing by and so on. Is this correct?

BOTNER: Yes.

VERITAS: Do the mirrors vibrate independently of each other – or is this some type of concerted motion?

BOTNER: They vibrate independently.

VERITAS: And what happens when a gravitational wave comes down?

BOTNER: Then the mirrors move in a concerted motion, as predicted by theory.

VERITAS: Is this concert observable? I mean, how do we know that the mirrors are moving in concert when normally they do not and there is no coupling of any kind between them?

BOTNER: We cannot actually observe this concerted motion because it is extremely small. But the LIGO readout shows that the motion is concerted.

VERITAS: Are you saying that the LIGO readout wiggles prove a concerted motion is prevailing?

BOTNER: Well, no. The concerted motion is a property of the gravitational wave. The wiggles tell us a gravitational wave is passing by, and that is how we then know that the mirrors must be in concerted motion.

VERITAS: And how exactly do the wiggles tell you that they are from a gravitational wave passing by?

BOTNER: Because the wiggles match black hole merger model.

VERITAS: You are trying to prove the existence of theorized gravitational waves by utilizing their theorized property of producing concerted motion. So isn't the concerted motion the first thing you have to experimentally demonstrate as happening? How can you gloss over the very point of the experiment, the very purpose for which LIGO was built?

BOTNER: There is no way to demonstrate the concerted motion directly. We assume it to be happening.

VERITAS: That makes the whole business of LIGO detecting gravitational waves just an assumption in its entirety. Isn't that right? It is just your word. There is absolutely no science behind this.

BOTNER: No, it is not right. LIGO is a high quality instrument for detecting gravitational waves.

VERITAS: Now, in reality, those mirrors are contained within a hermetically sealed steel vessel. So, you say that the gravitational wave does some business inside the vessel, business that you have no way of verifying. There is going on some type of unobservable entanglement of the two mirror motions. Then you say *Hail Mary full of grace*, and simply declare that the said business has actually taken place inside the vessel. Then you start matching this black hole merger stuff. And then you string together a complete story. Is that even remotely a scientific way of doing things?

BOTNER: I cannot answer that question because of Nobel secrecy.

VERITAS: Ah ... the Nobel secrecy! Your Honor, I have no further questions.

JUDGE: Any redirect, Mr. Moscato?

MOSCATO: Yes, Your Honor. Professor Botner, did the Nobel Committee not say that the first LIGO detection was model independent? In other words, the black hole merger model is not necessary to invoke in order to demonstrate that the mirrors are in concerted motion? Wouldn't that mean that just the readout wiggles by themselves prove that concerted motion is happening inside the vessel?

BOTNER: I .. er .. cannot go into that area.

MOSCATO: No further questions, You Honor.

JUDGE: The witness is excused.

This entry was posted on December 29, 2017 at 1:34 pm



## **COMPARATIVE FRAUDOLOGY**

The huge superstructure of LIGO fraud did not arise in vacuum. There is an entire history and there is an entire context. There are interrelations. For someone investigating LIGO, the big picture is also important. It shows how a culture of collective and collusive intellectual corruption has evolved on a historical scale.



# THE ROOTS OF LIGO

(The untold story behind 2017 Nobel Prize in Physics)

In the early 1960s, Princeton professor Robert Dicke was on a mission. One way or another, he would discover the predicted 3 K blackbody in the sky and clinch Big Bang Cosmology. He did not have to wait long. In 1964 he heard that two guys named Penzias and Wilson had observed an unexpected radiation component in the sky. It was an observation at a single frequency very far from the peak of the 3 K blackbody spectrum. No matter. Dicke got together with the two guys and passed this off as the discovery of the blackbody. The Nobel Prize followed for Penzias and Wilson in 1978.

Robert Dicke had started a process to transform the physics establishment to where no one would notice the blatancy with which grand discoveries would be made.

Dicke accordingly had taken two other boys under his wings. The boy Rai would become the science leader of the COBE Satellite program. He greatly embellished the Guru's fraud and discovered the entire blackbody spectrum in the sky. The Nobel Prize for that discovery would follow in 2006. But Rai was not done.

In 1975, Rai and the other boy Kip would share a hotel room in Washington DC. That night around the minibar the fate of your Universe was sealed. Four decades later the LIGO discoveries started rolling out. The physics establishment was now an integral part of the blatant fraud. For they each had been cycled through a pod.

A world education message from Bibhas De 11/01/2017

# THE GREAT COSMOLOGY SCAMS

The seemingly unrelated **Cosmic Blackbody scam** and the **Blackhole Merger scam** have common roots deep down



Robert Dicke manipulated Arno Penzias and Robert Wilson to pass off the Penzias-Wilson accidental observation of microwave background as the Big Bang blackbody that Dicke was trying to promote just then



George Gamow, an originator of the idea of Big Bang blackbody and the original Big Bang popularizer, was a guru to blackhole scammer Kip Thorne  
“I was much influenced by a guy named by George Gamow who was a cosmologist in the early 20th century. It was his writing that I’ve been able to pass on to the next generation.” -Kip Thorne



Thorne and Rainer Weiss (extreme right), joint LIGO blackhole scammers, were associates of Dicke the blackbody scammer  
“I’d met and had been a member also of Robert Dickie’s experimental group which played a major role in the discovery of the cosmic microwave background. ...

So I was tied into that group. Rai Weiss was in that group. He was a postdoc when I was graduate student, so we met there.” -Kip Thorne



Blackhole scammer Weiss was the leader of the COBE satellite team that included John Mather and George Smoot, blackbody scammers

A world education message from Bibhas De 05/09/2016

# The parallax view

## BICEP2

## LIGO

<b>"Discovered" what?</b>	Gravitational wave	Gravitational wave
<b>Waves from where?</b>	Big Bang inflation era	Merging Binary Black Holes
<b>Modus operandi</b>	High math, high-tech	High math, high-tech
<b>Grand rollout</b>	17 March 2014	11 February 2016
<b>Rollout venue</b>	Harvard Press Conference	NSF Press Conference
<b>Champagne corks popped?</b>	Yes	Not publicly
<b>Memorable quote</b>	"Clear as day!"	"We did it!"
<b>Who published?</b>	<u>Physical Review Letters</u>	<u>Physical Review Letters</u>
<b>Main institutional players</b>	Harvard-Stanford-Caltech	Caltech-MIT
<b>Observatory location</b>	South Pole	Washington, Louisiana states
<b>Head man</b>	John Kovac	David Reitze
<b>Spiritual gurus</b>	Alan Guth, Andrei Linde	Kip Thorne, Rainer Weiss
<b>TIME "Influential 100"</b>	John Kovac (April 2014)	Kip Thorne (April 2016)
<b>Major accolade</b>	Kavli Prize	Breakthrough Prize
<b>Nobel hopefuls</b>	Guth, Linde	Thorne, Weiss
<b>Establishment reception</b>	Provisional acceptance	Total acceptance
<b>US Congress</b>	Resolution of praise introduced	Laudatory Hearing held
<b>Praise from national leaders</b>	...	Prez Obama, PM Modi, PM Sharif
<b>Main funding source</b>	Kavli Foundation	NSF
<b>How much \$\$\$?</b>	Millions	A billion
<b>Manpower/span</b>	Dozens/years	A thousand/decades
<b>Bibhas De said:</b>	"Discovery scam"	"Total bullshit"
<b>Why?</b>	Quack instrument design	Botched instrument design
<b>What did they observe?</b>	Instrument projection on sky	Geomagnetic disturbance
<b>Botch up science arena</b>	Classical EM Theory	Classical EM Theory
<b>Common bungling institution</b>	Caltech	Caltech
<b>What happened next</b>	A cover up was executed	A cover up is underway
<b>Who aided cover up?</b>	Princeton, ESA, Kavli, <u>Phys Rev Lett</u>	Breakthrough Prize
<b>Tie to COBE fraud</b>	Relies on COBE "blackbody"	Weiss was a COBE guru
<b>Society's bane</b>	Science popularizers	Science popularizers
<b>Final assessment</b>	Cover up makes this a fraud	Cover up makes this a fraud

**HISTORY LESSON:** "*Civilizations die from suicide, not by murder.*" Arnold J. Toynbee

A world education message from Bibhas De 05/03/2016

# COMPARATIVE FRAUDOLOGY

## The discovery template scam:

It works on the “set a thief to catch a thief” principle. Rather than preserve the integrity of your precious data until the final observed result is obtained, contaminate the data with your discovery template at the very first step. Then pull out a signal that looks like your template.

## COBE Fraud    LIGO Fraud

SUBJECT:	BIG BANG COSMOLOGY	GEN. RELATIVITY
AGENCY:	NASA	NSF
COST:	\$400 m	\$1 bn
MANPOWER:	~ 1000	~ 1000
“DISCOVERED”:	Cosmic Blackbody    Gravitational wave	
INSTRUMENT:	Satellite in orbit	Observatory on ground
TECHNIQUE:	Interferometry	Interferometry
MOVING PART:	Mirrors, Calibrator	Mirrors
DATA DISPLAY:	Frequency domain	Time/Freq domain
FIX IS IN:	Onboard blackbody    Templating of pristine data	
TEMPLATE:	Planck spectrum	Merging Black Holes
RESULT:	Uncanny agreement	Uncanny agreement
WAS THIS RESULT ON THE SKY?	No	No
INSTRUMENT SAW?	Sky	Geomagnetic disturbance
BUT WAS MADE TO REPORT:	Template	Template
SCIENCE LEADER:	Rainer Weiss	Rainer Weiss
WHERE WAS HE?	MIT	MIT

A world education message from Bibhas De 09/05/2017

## THE LIGO COMMENTARIAT

Science reporting in the olden days was simple: Scientists put out information. Reporters reported this faithfully. If the information put out later turned out to be wrong, the reporters were not at fault.

Today we have a new breed of science reporters who project themselves as science-savvy arbiters of science, and tend to see themselves as science celebrities. They promote chosen science like hucksters. They make editorial comments and value judgements. They ignore critics and criticisms at will. Therefore, when what they report is false science or fraud, they become part sharers of the blame. Some of the blame must be assigned to them, including legal blame.

Even worse are the so-called science popularizers, who are actually practicing scientists. When they promote fraudulent science, it is not science popularizing. Whatever it is, it is not good for human society.

And then there are the book writers or *auteurs*. They project themselves as expert scientists, biographers, psychoanalysts and heroizers – all rolled in one. They are largely a nuisance for anyone trying to expose bad science. But the bottom line for them is \$++. Even if their books in the end turn out to be a load of lies, what does it matter? The money is already in the bank.



# THE LIGO COMMENTARIAT

## The running dogs of physics frauds

Science reporters' job is to inform the world on developments in science along with significant contrary views – regardless of whether the views come from inside or outside the establishment, and in which forum they are aired.

It is an integral part of these reporters' job (for which they are paid) to go actively looking for such views and report on them. [The world should emphatically reject the establishment's self-serving stratagem that criticisms must be published in their own peer-reviewed journals to be considered worthy of response. It's like, *Come into my parlor...* The critics need not comply.]

The LIGO discovery is patently bogus, and has been publicly pronounced as such by many scientists with full credentials. The LIGO reporters never reported any of these criticisms, opting instead to bloviate loftily on the greatness of the discovery. They have been collectively duping the world citizenry and world governments from their trusted platforms and, by this action, have been aiding and abetting taxpayer fraud in multiple nations.

### HIGH PLATFORM, LOW PURPOSE



Dennis Overbye  
New York Times



Adrian Cho  
Science, AAAS



Miles O'Brien  
PBS



Geoff Brumfiel  
NPR



Davide Castelvecchi  
Nature



Hamish Johnston  
Physics World



Ian Sample  
The Guardian



Joel Achenbach  
Washington Post

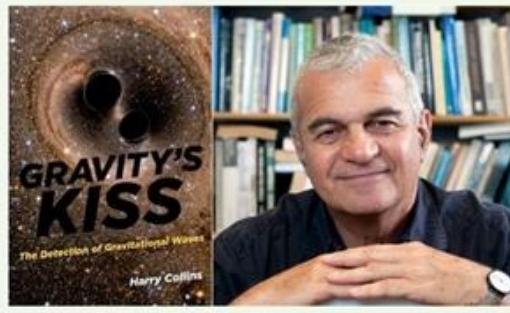
A world education message from Bibhas De 02/18/2017

# THE BIZARRO WORLD OF LIGO

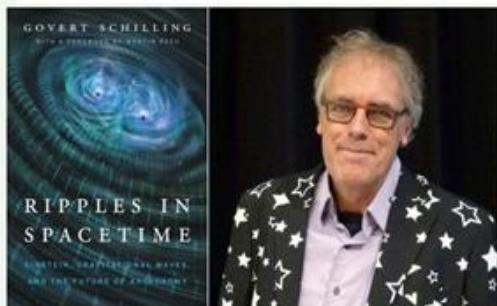
## HEROIZING EPICS FROM BIG PUBLISHING HOUSES



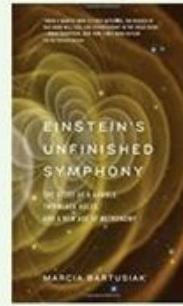
**Black Hole Blues by Janna Levin**  
Knopf (2016) \$26.95



**Gravity's Kiss by Harry Collins**  
MIT Press (2017) \$29.95



**Ripples in Spacetime by Govert Schilling**  
Harvard University Press (2017) \$29.95



**Einstein's Unfinished Symphony**  
by Marcia Bartusiak  
Yale University Press (2017) \$18



## SELF-PUBLISHED BOOK EXPOSES ORGANIZED SCAM

### FAKE BABAS OF PHYSICSVILLE

In India some conmen assume the guise of much-trusted holy men (sadhus, babas), and promise to create for you *paiso ki barish* (rain of money; *paiso* = money, *barish* = rain). You bring a suitcase full of hard cash to the fake baba's jungle hideout in the hope he will make double that money rain from the sky for you. The rest you can guess.



The LIGO leaders – the gravitational wave discovery gurus – get your *paiso* via your national coffer. They promise you a firmamental barish. Can you guess what will happen next to you? It's a hard rain's a-gonna fall.

THE AUTHOR: Bilbas De busts physics gigabuck gigascams. Whether they are conducting this in the high frontier with a NASA satellite, on the white expanse of Antarctica with a coffee-can telescope or in the Louisiana bayou country with a kilometers-long latter-day dowsing rod, he unmasks them. His service to you is gratis.



**Second Edition: LIGO unravels**

### UNCHALLENGED PRIVILEGE

**The Billion-Dollar Trilateral Gravitational-Wave Discovery Scam**



An investigative report by  
**BIBHAS DE**  
Author of *The Falsifiers of the Universe*

# Les Ligovendeurs

They are the LIGO Commentariat: touts and shills for the LIGO organization. They represent an unprecedented danger to the civilized world. A ligovendeur is usually an academic blogger, a science popularizer, a science reporter etc. He usually has a large following and a big loudbailer. When it comes to LIGO, he has understood absolutely nothing; or he *has* understood that the LIGO discovery is a fraud and is still lying to the world. He bloviates authoritatively as he peddles his sham wares. I will give you a Fo' instance.



ETHAN SIEGEL, a professor at Lewis & Clark College, runs a blog in *Forbes Magazine*. He portrays himself as a clown. He is perhaps the shrewdest shill for LIGO. Recently, in reviewing a laudatory book on LIGO by journalist Govert Schilling, he wrote : *This will be of particular interest to anyone who's skeptical of LIGO's detections. ... After reading the story, all of your doubts should be washed away.*

He is sending a message to the 2017 Nobel Prize deliberation committee, telling them to dismiss outright all the beneficial LIGO dissidence. This guy is a clown all right – in a Stephen King sense.



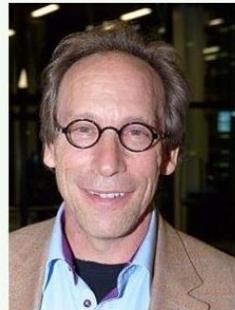
09/01/2017

# POPULARIZERS OF FALSE SCIENCE

*They continue to pitch fraudulent science to your young*



Brian Greene



Lawrence Krauss



Neil deGrasse Tyson

Columbia University Arizona State University Hayden Planetarium

Shortly after the epoch-making LIGO discovery of gravitational waves was announced on February 11, 2016, a number of alert scientists worldwide exposed the ludicrousness and the laughability of the “genius” science behind the LIGO Observatory. That should have been the end of the LIGO story right there.

But these so-called science popularizers, with their authoritative posturing, continue today to sell the grand fraud as genius science. This is their song:

*Don't know much about experiments  
Don't know much engineering  
Don't know much about a physics textbook,  
Don't know much about the ethics I took  
But I do know that I love you, camera,  
And I know that if you love me, too,  
What a narcissist's heaven the world would be.*

(With apologies to sam Cooke)

**LORD HAVE MERCY ON THOSE WHO FOLLOW THESE POSEURS!**

A world education message from Bibhas De

04/13/2017

# LIGO: Neil deGrasse Tyson's bizarre tirade



Neil deGrasse Tyson is a science-popularizing public figure with a large following. His fields generally are astronomy, astrophysics and cosmology. His following – it can be assumed – looks to him to give the correct view of things, and accepts that view in implicit trust.

In a recent Q&A session he was asked about LIGO. On that he launched on a bizarre rant. This in itself is of no interest here, but what he says proves a very important point. People of his ilk – the LIGO commentariat – are peddling absolute garbage science to the world. This is the post-truth world of LIGO: Maintaining a fraudulent discovery through total control of the news media, with “fake news” and authoritative tough-guy stance by a group of poseurs.

Read this, and then I will show that Tyson does not know whereof he speaks.

AL: Last year...they found a gravity wave. When you looked, it was the tiniest little blip, you wound up wondering is it real. Do you believe in the [LIGO] apparatus? (LIGO refers to a pair of experiments, one in Washington State and one in Louisiana, built to observe gravitational waves from astrophysical phenomena like colliding black holes.)

NDT: The word “belief” will never come out of my mouth. The instrument is highly sensitive. It can tell if there’s a car driving on a road a half of a mile away. So you have to ask yourself what kind of signal would colliding black holes leave. We know general relativity and can calculate what that signal would be: it goes like this. Woop! (Tyson draws a squiggle on a page). Has anyone seen this? No? Then all of the sudden you get it. Holy shit, this matches our model for a black hole. Excuse me, same apparatus 1500 miles away, did you get this as well? Yes you did! Did you get it at the same time? No, you got it a 30th of a second later. Einstein’s prediction is that gravity waves move at the speed of light, and that is the time delay of the speed of light between these two institutions! (Tyson is shouting now) So, you will have to tell me that there is some glitch that knows how to mimic what we calculate for two colliding black holes (Pounding fist

on the table) and somehow figured out how to put the same glitch 1500 miles away, a 30th of a second delayed.

So we're good to go. We're on to the next problem.

AL: Okay. I just want reassurance.

NDT: No, it's good! We have competent people thinking about this stuff. We're not just making shit up.

OK, let us take his points one by one.

First, Tyson says LIGO is so sensitive that it picks up a car traveling far away. LIGO responding to a car far away or to snow falling on cedars nearby or whatever has absolutely nothing to do with the working principle of the LIGO instrument. These spurious signals are recorded because they cause something to go out of whack inside LIGO. And most anything that goes out of whack inside LIGO will produce a LIGO "whack" signal. This signal *is not* generated according to the LIGO principle of operation. This process does not test anything about the LIGO working principle.

Second, he says that the sequential arrival of the "discovery" signals is proof that it is a gravitational wave. End of discussion, he says. The sequential arrival can occur due to a number of reasons: High altitude geomagnetic disturbance, deep Earth seismic disturbance, etc. Even fluctuations in the DC bridge connecting the American Eastern and Western electric power grids have been suggested as a possible cause of this near-simultaneous observation of the same signal at the two stations. In fact, when an earlier discovery of gravitational wave was reported on the basis of such a simultaneity, Rainer Weiss himself shot this down, saying it was due to geomagnetic disturbance.

Third, Tyson says that the LIGO discovery should be accepted because it has been made by "competent" people. Similarly competent people also reported the COBE Satellite discovery and the BICEP2 discovery. Both were fraud science. LIGO leader Rainer Weiss was also the scientific leader of the COBE project.

This entry was posted on February 14, 2017 at 2:22 pm

## **PRIZES GALORE**

No sooner was the LIGO discovery announced than the prize gives started falling over each other to get to LIGO to hand them the prize. They were backed by prize-giving jury panels made of big name scientists.

There is probably more truth in advertising in Cairo's Khan Al-Khalili market than there is among these prize-giving bodies. They are a disgrace to all that we as a human society hold as collective good.



## FAKE EXPERTS BEHIND THE DELUGE OF LIGO PRIZES

Eight questions for the big poobahs who recommended LIGO for these prizes:

Q1: Where is the experimental evidence (independent of the discovery wiggle) that the mirrors “move” in the gravitational wave?

(Correct answer: There’s no independent evidence that the mirrors do anything.)

Q2: Where is the experimental evidence (independent of the discovery wiggle) that the two mirrors move in an entangled motion?

(Correct answer: There is absolutely no evidence for this assumption at the very core.)

Q3: Where is the experimental evidence that the mirrors move 1/10,000<sup>th</sup> of the proton diameter, as required by theory?

(Correct answer: This is total fiction.)

[The observed pronounced amplitude discrepancy between the two LIGO stations has been explained away by their different orientations and/or the polarization of the incoming gravitational wave.]

Q4: Where is the experimental determination of the assumed LIGO directional sensitivity (“antenna pattern”)?

(Correct answer: There is no experimental information whatsoever.)

Q5: Where is the experimental evidence of the theorized wave polarization and the polarization orientation?

(Correct answer: There is no experimental information whatsoever.)

Q6: How can the above two conjectured effects for which there is no observational basis be invoked together to ascribe the observed amplitude discrepancy clinchingly to an alleged gravitational wave?

(Correct answer: This is transparently false physics.)

Q7: Where is the LIGO calibration data in the applicable parameter range of the LIGO discovery?

(Correct answer: LIGO is an uncalibrated instrument, and is therefore totally worthless.)

Q8: How can a single wiggle coming out of a sealed machine (whose inside processes are not being independently monitored and are therefore not known) simultaneously (a) make a discovery and (b) validate all of the theorized steps happening inside the machine that are said to make possible this discovery? Is this, like, *End justifies the means?* Can you even begin to understand these eight questions?

**Nothing is so firmly believed as what we least know.** - Michel de Montaigne

# **PRIZE-GIVING FOUNDATIONS DUPED BY LIGO POWER-BROKERS**

**Some international prize-givers who were manipulated into endorsing the LIGO fraud:**

## **THE SHAW PRIZE 邵逸夫獎**



**GRUBER  
FOUNDATION**



## **THE KAVLI FOUNDATION**



## **TIME The 100 Most Influential People in the World**

**Albert Einstein-Gesellschaft**



**AMERICAN INGENUITY AWARDS**

## **BREAKTHROUGH PRIZE**

**Körber  
Stiftung**



**Fundación  
Princesa de Asturias**

**Niedersächsischer  
Staatspreis 2016**

A world education message from Bibhas De 06/30/2017

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## 2016 PRIZES AWARDED FOR LIGO DISCOVERY

### Awarding panels

#### SPECIAL BREAKTHROUGH PRIZE

Nima Arkani-Hamed	Alexei Kitaev	Adam Riess*
Lyn Evans	Maxim Kontsevich	John H. Schwarz
Michael B. Green	Andrei Linde	Nathan Seiberg
Alan Guth	Arthur McDonald*	Ashoke Sen
Stephen Hawking	Juan Maldacena	Yifang Wang
Joseph Incandela	Saul Perlmutter*	Edward Witten
Takaaki Kajita*	Alexander Polyakov	

#### GRUBER COSMOLOGY PRIZE

Robert Kennicutt	Frans Pretorius	Andrew Fabian
Sadanori Okamura	Helge Kragh	Owen Gingerich
Rashid Sunyaev	Subir Sarkar	Martin Rees

#### SHAW PRIZE IN ASTRONOMY

Jiansheng Chen  
Peter Goldreich  
Michel Mayor

#### KAVALI PRIZE IN ASTROPHYSICS

Richard McCray  
Brian P. Schmidt\*  
Mats Carlsson  
Claude Canizares

Paolo Caselli  
Carlos Frenk  
Fiona Harrison

\*Nobel Laureate in physics

# **CONNED BY LIGO**

## **National leaders conned by LIGO**



President Obama and Prime Minister Modi

## **European royalty conned by LIGO**



Leonor, Princess of Asturias (Spain)

## **Charitable billionaires conned by LIGO**



Clockwise from top left: Kurt Körber, Fred Kavli, Peter Gruber, Run Run Shaw, Mark Zuckerberg, and Yuri Milner



# The Royal Houses

## Patrons of LIGO science fraud



### THE HOUSE OF BERNADOTTE

(Sweden: Nobel Prize, Germany: Promotion at Lindau Nobel Laureate Meetings)



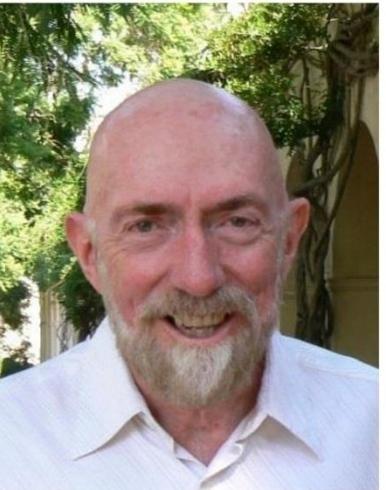
### THE HOUSE OF BOURBON

(Princess of Asturias Award)

**Duty to Inform**

A world education message from Bibhas De 11/13/2017

**TIME MAGAZINE'S  
MOST INFLUENTIAL MEN IN THE WORLD**  
**2007                    2014                    2016**



**JOHN MATHER**

**JOHN KOVAC**

**KIP THORNE**

**COBE**

**BICEP2**

**LIGO**

**LORD HAVE MERCY!**



## LIGO CRITICISMS

Starting on the same day that the LIGO first detection was announced, there arose voices that ranged from skepticism to disbelief. These were all aired on various Internet forums, and never found their way to the media which meticulously maintained a spotless scientific image of LIGO, and then magnified it interminably.

As I have said, LIGO is a faulty instrument concept and nothing it reports merits discussion. One does not debate the estimated quantity of water reserves indicated by a dowsing rod.

However, the dissident views are helpful because they each point to some symptom of LIGO being a useless contraption. When an apple is rotten, you can tell this by its smell, color, texture, feel, sheen etc. Likewise, you can identify many symptoms of LIGO being defective.

When you put together all these studies, only one conclusion follows: LIGO is useless.



# Claes Johnson



## Absurdity of Modern Physics: LIGO Gravitational Wave Detection as Ill-posed Problem

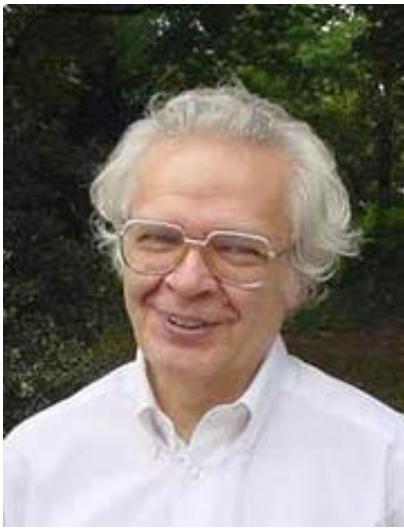
We understand that an expansion-contraction of the Earth of the size of an atom nucleus diameter as an effect of a “ripple in the fabric of space-time” was detected during 0.25 seconds, and from this observation the conclusion is drawn by computer simulations and modelling that this extremely minute effect as a “ripple in the fabric of space-time”, was the result of a very specific extremely gigantic invisible explosion 1.3 billion light years away shining brighter than all stars in all galaxies for 0.25 seconds in the form of gravitational waves.

We see a combination of a biggest possible cause/input and a smallest possible effect/output in a certain mathematical model. The conclusion comes from using this mathematical model in inverse form, where a smallest possible signal is used to identify a biggest possible origin of the signal.

This means that the mathematical model in inverse form is extremely ill-posed and as such cannot be used to draw conclusions. To do so requires that all alternative explanations of the zero signal can be eliminated, and it is then not enough to just say that no other explanation immediately suggest themselves, that is to draw conclusions from ignorance with the precision of the conclusions increasing as the ignorance or stupidity grows.

Claes Johnson,  
Professor of Applied Mathematics  
Royal Institute of Technology (KTH)  
Stockholm, Sweden

<http://claesjohnson.blogspot.com/2016/02/absurdity-of-modern-physics-ligo.html>



## Does a “Fraudulent Joke” stand behind the Discovery of Gravitational Waves?

Two hard reasons motivate this public question:

First, the by now famous, almost identical pair of LIGO data from September 14, 2015 got recorded four days before the official start of measurements while the experiment was still on trial runs. During that phase, fake “trial data” of similar shapes got routinely injected at unpredictable times to remain unacknowledged for months in a row for double-blind purposes. This state of affairs likely extends to the data in question.

Second, the data are interpreted as a length change in the 4 kilometers long detector arms, functionally enlarged by a factor of more than ten through back and forth reflections. The measured length change then is less than one ten-thousandth of the diameter of a proton – more than 24 orders of magnitude below the 4 kilometers of the instrument. This unprecedented sensitivity means also that no physical effect has ever been excluded to a higher accuracy! If the observed minute length change was real, gravity waves would be a million times weaker than originally anticipated by Joseph Weber whom I once met. Never has a tinier result been presented as a discovery.

This unprecedented state of affairs makes it mandatory for the involved scientists to publish a detailed account of the up until now neglected “forensic part” of the experiment: by portraying every fake signal injected during the months and weeks and days before September 18. Only thereafter can one return to the, in this light prematurely published, claim of a gravitational wave detected.

This caveat is given by an author who for eight years offers an unchallenged, meanwhile maximally simplified, published proof of global constancy of the speed of light in the vacuum. This retrieved result of the less than 32 year old Einstein rules out gravitational waves from first principles. It simultaneously confirms Einstein’s own later abandonment of gravitational waves. The marvelously crafted “ring-down effect” displayed in the LIGO data from September 14 in Physical Review Letters is

then nothing but a unique piece of "scientific art" mirroring the firm belief of its creators. But this proof of fraud - "a physical Beltracchi" - is cogent only if the re-discovery of Einstein's early c-global holds water. The younger Einstein thus stands in the limelight again. "Proof or Prejudice" is the title song.

Letter to the New York Times, written by Otto E. Rossler, University of Tübingen, Germany

Otto E. Rössler  
Professor  
University of Tuebingen  
Tuebingen, Germany

[https://www.researchgate.net/post/Does\\_a\\_Fraudulent\\_Joke\\_stand\\_behind\\_the\\_Discovery\\_of\\_Gravitational\\_Waves](https://www.researchgate.net/post/Does_a_Fraudulent_Joke_stand_behind_the_Discovery_of_Gravitational_Waves)

COMMENT ON ABOVE POST:

W.W. Engelhardt

JET, Max-Planck-Institut für Plasmaphysik (retired)

The LIGO-publication must be classified as "fraud", since it claims a strain of  $10^{-21}$  between the two arms caused by a gravitational wave, but it does not document the same strain under controlled conditions caused by radiation pressure on the mirrors. This was one of the methods described as being applied for the calibration of the system. The calibration curve, however, is withheld from the public!

There is another intrinsic problem with this particular "gravitational wave". It had a typical frequency of 150 Hz belonging to a wave length of 2000 km, if it travels at c. As the distance between beam splitter and reflecting mirror was 4 km, there was practically always the same phase on these objects, i.e. there was no reason to move them in different directions against each other. In this case there is no relative shift and a phase difference between the two arms of the interferometer cannot occur.

Maybe I am wrong, but I cannot see, how a relative displacement between beam splitter and mirror can occur, unless the wavelength is comparable with the arm length.

# STEPHEN J. CROTHERS



## A Critical Analysis of LIGO's Recent Detection of Gravitational Waves Caused by Merging Black Holes

**Authors:** Stephen J. Crothers

The LIGO Scientific Collaboration and the Virgo Collaboration have announced that on 14 September 2015, LIGO detected an Einstein gravitational wave directly for the first time, with the first observation of a binary black hole merger. The announcement was made with much media attention. Not so long ago similar media excitement surrounded the announcement by the BICEP2 Team of detection of primordial gravitational waves imprinted in B-mode polarisations of a Cosmic Microwave Background, which proved to be naught. According to the LIGO and Virgo Collaborations, the gravitational wave LIGO allegedly detected was generated by two merging black holes, one of  $\sim 29$  solar masses, the other of  $\sim 36$  solar masses, at a distance of some 1.3 billion light years. The insurmountable problem for the credibility of LIGO's claims is the questionable character of the theoretical assumptions upon which they are based. In this paper various arguments are presented according to which the basic theoretical assumptions, and the consequential claims of detecting gravitational waves, are proven false. The apparent detection by the LIGO-Virgo Collaborations is not related to gravitational waves or to the collision and merger of black holes.

*Hadronic Journal Vol. 39, 2016*

# **WOLFGANG W. ENGELHARDT**



## **Open Letter To The Nobel Committee For Physics 2016**

Published on July 1, 2016

Written by Wolfgang Engelhardt

To Professor Olle Inganäs (chairman),

Dear Professor Inganäs,

On Feb. 11, 2016 the LIGO-team published the paper PRL 116, 061102 (2016): Observation of Gravitational Waves from a Binary Black Hole Merger. The experimental proof for the existence of a gravitational wave was announced: Mirrors of 40 kg had been displaced by 10-18 m during fractions of a second as measured with a Michelson-interferometer with 4 km arm length resulting in a strain of 10-21.

Scaling up these data by a factor of 10<sup>13</sup> a relative accuracy must have been achieved by a hair's breadth (10 microns) in relation to the distance to the next fixed star (4 light-years). This is by a factor of 1 Million better than the relative Mössbauer accuracy of 10-15 obtained so far.

Indeed, Rudolf Mössbauer was awarded the Nobel Prize for physics in 1961 for this achievement. In order to substantiate this extraordinary claim, it is absolutely necessary to demonstrate experimentally LIGO's ability to measure a displacement of 10-18 m that is one thousandth of a proton radius. The reader is assured that the calibration of the system can be achieved by moving the mirrors by such a tiny distance with radiation pressure: "The detector output is calibrated in strain by measuring its response to test mass motion induced by photon pressure from a modulated calibration laser beam [63]." Ref. [63] is an unpublished e-print describing the calibration method by radiation pressure.

Formula (10) gives the calculable connection between displacement and the radiation power of an auxiliary laser shining on the mirror. Unfortunately no data are given as to the laser power, wave form, number of oscillations in order to compare with the documented effect that was exerted on the mirrors by the wave GW150914, as displayed in the "discovery paper".

An enquiry with the Albert Einstein Institut revealed that such data do not exist. Prof. Karsten Danzmann declared that the calibration procedure is much more complicated than could be expected from the announcement in the discovery paper (<http://www.kritikrelativitaetstheorie.de/Anhaenge/Anfrage%20LIGO-Experiment.pdf>, document 13).

In order to understand it, one would need to study lengthy technical documents such as arXiv:1007.3973v1 [gr-qc] 22 Jul 2010 which, however, does not present either a calibration curve “mirror displacement versus laser power”. In view of this statement one must conclude that an experimental proof for the claimed accuracy of the system does not exist, certainly none which is intelligible and could be accepted by the scientific public.

It would be easy to move the mirrors by radiation pressure similarly as the gravitational wave did on 15-09-14, but no data have been published since then that would document this calibration measurement. In view of Prof. Danzmann’s statement one must suspect that LIGO was not calibrated as announced in the discovery paper with the consequence that the claim having detected a gravitational wave is not substantiated experimentally.

It is quite possible that GW150914 was a test signal injected into the system before the science run started. The second “discovery” GW151226 shows a very weak signal that is hardly discernable in the noise as admitted by the authors themselves.

In the early seventies there was a claim by Joe Weber having detected gravitational waves. Repetitions of his measurements by several groups came up with null results. Weber was not awarded a Nobel Prize, a wise decision by the Committee. In the present instance it is not easily possible to repeat independent experiments with interferometers of 4 km arm length.

One should insist, however, that the LIGO-group carries out the calibration as described in their discovery paper and publishes the results. Such data were included in the previous Technical Document LIGO-T030266-00 - D 9/22/03 (<https://dcc.ligo.org/public/0027/T030266/000/T030266-00.pdf>) where much higher laser power was applied to achieve measurable displacements. Hence, it is surprising to notice that direct calibration data were not included in Ref. [63] on this far more auspicious occasion. As more events like GW150914 are expected, one should wait and see whether they materialize.

With my best regards,

Wolfgang Engelhardt

## **Open Letter to The Nobel Committee For Physics 2017**

To Professor Nils Mårtensson (chairman),  
nils.martensson @physics.uu.se, info @kva.se

2017-01-14

Dear Professor Mårtensson,

You are certainly aware of the Open Letter to the Nobel Committee for Physics 2016. Unfortunately, the uncertainties concerning the LIGO experiment have not been removed during the past year. On the contrary, neither an event of similar magnitude as GW150914 was detected, nor was the calibration paper arXiv:1602.03838v1 [gr-qc] 11 Feb 2016 published in a peer reviewed journal. The co-authors Prof. Bruce Allen and Prof. Karsten Danzmann do not even list this e-print among their publications in ResearchGate, although this report was cited in reference [63] of PRL 116, 061102 (2016) as an integral part of the 'discovery'. There is no doubt, without proving experimentally LIGO's ability to measure 10 oscillations of heavy mirrors with an amplitude of one thousandth of a proton radius within 200 milliseconds as allegedly induced by GW150914 one cannot claim any discovery. Nevertheless, some authors of the 'discovery paper' PRL 116, 061102 (2016) express in the media their expectation that LIGO must be awarded a Nobel Prize in 2017. I am sure, your Committee will not comply with these unfounded and unreasonable requests until a solid experimental proof of a real discovery of the hypothetical gravitational waves has been published.

Yours sincerely,  
Wolfgang Engelhardt

# **DEMETRIS T. CHRISTOPOULOS**

**Statistical text analysis of Livingston logfiles for LIGO project 2010-2017**

**Demetris T. Christopoulousa**

National and Kapodistrian University of Athens, Department of Economics

## **Abstract**

We use more than 35K log files from Livingston laboratory and we search for specific keywords that reveal tasks by using currently introduced Action Text Estimator (ATE), existing text mining tools and Granger causality tests.

It is found that lockloss and all kind of injections obtain their peak points exactly on times of announced events, while actions by commissioners increase and reach extreme values just before each event. Observing mode is a minority in text mining analysis if we compare it with other keywords. Lockloss Granger causes observing which is incompatible with IFO operational procedure. A deeper analysis is required for the relation between lockloss, injections, commissioners and observation mode.

Keywords: action text estimator, big data, analytics, text mining, LIGO, inj

*Statistical text analysis of Livingston logfiles for LIGO project 2010-2017 (PDF Download Available).* Available from:

[https://www.researchgate.net/publication/320858455\\_Statistical\\_text\\_analysis\\_of\\_Livingston\\_logfiles\\_for\\_LIGO\\_project\\_2010-2017?channel=doi&linkId=59ff0b270f7e9b9968c577ca&showFulltext=true](https://www.researchgate.net/publication/320858455_Statistical_text_analysis_of_Livingston_logfiles_for_LIGO_project_2010-2017?channel=doi&linkId=59ff0b270f7e9b9968c577ca&showFulltext=true) [accessed Dec 31 2017].

# Big data analysis of Livingston and Hanford logfiles for LIGO project 2010-2016

**Data** · April 2016 *with 7,510 Reads*

DOI: 10.13140/RG.2.1.5124.1365

Cite this publication

**Demetris Christopoulos**

National and Kapodistrian University of Athens

## Abstract

We use more than 50K log files from Livingston (L1) and Hanford (H1) laboratories. The injections have a maximum density close to 2015-09-14 ('time zero') when it was announced by LIGO that a gravitational wave was detected. Lost lock of interferometer (IFO) is also distributed in time by a similar way. Several unknown reasons for lockloss have been reported while IFO is found to present extreme instability at time zero. Commissioners had the privilege to perform injections without any prior notification to the 'scientists on board'. Earthquakes seem to be active the date of alleged detection and one of them managed to bypass the lockloss system. Harvesting trucks had been working for weeks close to (L1) at time zero. Noise from weather also had a maximum same days. We use Extremum Surface and Distance Estimator (ESE and EDE) methods in order to perform Inflection Point Analysis of times. It seems that close to Sep 14, 2015 almost all possible causes of external and internal noise are present and serious malfunctions appear. Credibility of L1 and H1 laboratories continues to be highly questionable and they cannot be treated as observatories by no means, unless if they stop performing hardware injections.

Figures

## LIGO Experiments Cannot Detect Gravitational Waves by Using Laser Michelson Interferometers – Light's Wavelength and Speed Change Simultaneously When Gravitational Waves Exist Which Make the Detections of Gravitational Waves Impossible for LIGO Experiments

[Full-Text HTML](#) [XML](#)  [Download as PDF](#) (Size:482KB) PP. 1749-1761

DOI: [10.4236/jmp.2016.713157](https://doi.org/10.4236/jmp.2016.713157) 855 Downloads 1,277 Views

Author(s) [Leave a comment](#)

Xiaochun Mei<sup>1</sup>, Zhixun Huang<sup>2</sup>, Policarpo Yōshin Ulianov<sup>3</sup>, Ping Yu<sup>4</sup>

Affiliation(s)

<sup>1</sup>Institute of Innovative Physics in Fuzhou, Fuzhou, China.

<sup>2</sup>Communication University of China, Beijing, China.

<sup>3</sup>Equalix Tecnologia LTDA, Florianópolis, Brazil.

<sup>4</sup>Cognitech Calculating Technology Institute, Los Angeles, CA, USA.

### ABSTRACT

It is proved strictly based on general relativity that two important factors are neglected in LIGO experiments by using Michelson interferometers so that fatal mistakes were caused. One is that the gravitational wave changes the wavelength of light. Another is that light's speed is not a constant when gravitational waves exist. According to general relativity, gravitational wave affects spatial distance, so it also affects the wavelength of light synchronously. By considering this fact, the phase differences of lasers were invariable when gravitational waves passed through Michelson interferometers. In addition, when gravitational waves exist, the spatial part of metric changes but the time part of metric is unchanged. In this way, light's speed is not a constant. When the calculation method of time difference is used in LIGO experiments, the phase shift of interference fringes is still zero. So the design principle of LIGO experiment is wrong. It was impossible for LIGO to detect gravitational wave by using Michelson interferometers. Because light's speed is not a constant, the signals of LIGO experiments become mismatching. It means that these signals are noises actually, caused by occasional reasons, no gravitational waves are detected really. In fact, in the history of physics, Michelson and Morley tried to find the absolute motion of the earth by using Michelson interferometers but failed at last. The basic principle of LIGO experiment is the same as that of Michelson-Morley experiment in which the phases of lights were invariable. Only zero result can be obtained, so LIGO experiments are destined failed to find gravitational waves.

# Was LIGO's Gravitational Wave Detection a False Alarm?

[Full-Text HTML](#) [XML](#) [!\[\]\(5fd6a8aa29539c8da20295eaf5a23040\_img.jpg\) Download as PDF](#) (Size:6833KB) PP. 1845-1865

DOI: 10.4236/jmp.2016.714164 1,001 Downloads 1,783 Views

**Author(s)** Leave a comment

Policarpo Yōshin Ulianov<sup>1</sup>, Xiaochun Mei<sup>2</sup>, Ping Yu<sup>3</sup>

**Affiliation(s)**

<sup>1</sup>Equalix Tecnologia LTDA, Florianópolis, SC, Brazil.

<sup>2</sup>Institute of Innovative Physics, Fuzhou, Fujian, China.

<sup>3</sup>Cognitech Calculating Technology Institute, Los Angeles, CA, USA.

## ABSTRACT

This article presents a new type of whitening filter (allowing the “passing” of some noise sources) applied to process the data recorded in LIGO’s GW150914 and GW151226 events. This new analysis shows that in the GW150914 event, the signals from the collision of two black holes are very similar to the 32.5 Hz noise sources observed in both of LIGO’s detectors. It also points out that these 32.5 Hz noise sources are powered by a 30 Hz sub harmonic, coming from the 60 Hz power system. In the GW1226 event, the same analysis points out that the NR template is very similar to the 120 Hz noise source. Therefore, the signals recorded in these events were probably generated by some small changes with the 60 Hz frequency in the US power grid. This can be caused, for example, by a power variation in the DC link, which can appear in both detectors in the same 10 ms time window. As this kind of power grid occurrence did not change the voltage levels, it may have gone unnoticed by LIGO’s electrical power supply’s monitoring system.

# ANDREW D. JACKSON et al



## On the time lags of the LIGO signals

James Creswell, Sebastian von Hausegger, Andrew D. Jackson, Hao Liu, Pavel Naselsky

(Submitted on 13 Jun 2017 ([v1](#)), last revised 9 Aug 2017 (this version, v2))

To date, the LIGO collaboration has detected three gravitational wave (GW) events appearing in both its Hanford and Livingston detectors. In this article we reexamine the LIGO data with regard to correlations between the two detectors. With special focus on GW150914, we report correlations in the detector noise which, at the time of the event, happen to be maximized for the same time lag as that found for the event itself. Specifically, we analyze correlations in the calibration lines in the vicinity of 35\,Hz as well as the residual noise in the data after subtraction of the best-fit theoretical templates. The residual noise for the other two events, GW151226 and GW170104, exhibits similar behavior. A clear distinction between signal and noise therefore remains to be established in order to determine the contribution of gravitational waves to the detected signals.

Comments: The body of the current version is essentially identical to the previous one submitted to arxiv and JCAP. In order to meet the various suggestions of the referees, we have included an extended and detailed Appendix. This Appendix also contains significant new results that provide additional support for our conclusions. This version of our manuscript has been accepted for publication by JCAP

Subjects: **Instrumentation and Methods for Astrophysics (astro-ph.IM); General Relativity and Quantum Cosmology (gr-qc)**

DOI: [10.1088/1475-7516/2017/08/013](https://doi.org/10.1088/1475-7516/2017/08/013)

Cite as: [arXiv:1706.04191 \[astro-ph.IM\]](https://arxiv.org/abs/1706.04191)  
(or [arXiv:1706.04191v2 \[astro-ph.IM\]](https://arxiv.org/abs/1706.04191v2) for this version)

# AKHILA RAMAN



## On the Signal Processing Operations in LIGO signals

[Akhila Raman](#)

(Submitted on 20 Nov 2017 ([v1](#)), last revised 21 Nov 2017 (this version, v2))

This article analyzes the data for the five gravitational wave (GW) events detected in Hanford(H1), Livingston(L1) and Virgo(V1) detectors by the LIGO collaboration. It is shown that GW170814, GW170817, GW151226 and GW170104 are very weak signals whose amplitude does not rise significantly during the GW event, and they are indistinguishable from non-stationary detector noise.

LIGO software implements cross-correlation function(CCF) of H1/L1 signals with the template reference signal, in frequency domain, in a matched filter, using 32 second windows. It is shown that this matched filter misfires with high SNR/CCF peaks, even for very low-amplitude, short bursts of sine wave signals and additive white gaussian noise(AWGN), all the time. It is shown that this erratic behaviour of the matched filter, is due to the error in signal processing operations, such as lack of cyclic prefix necessary to account for circular convolution. It is also shown that normalized CCF method implemented in time domain using short windows, does not have false CCF peaks for sine wave and noise bursts. It is shown that the normalized CCF for GW151226 and GW170104, when correlating H1/L1 and template, is indistinguishable from correlating detector noise and the template. It is also shown that the normalized CCF for GW151226 and GW170104, when correlating H1/L1 and template, is indistinguishable from correlating H1/L1 and bogus chirp templates which are frequency modulated(FM) waveforms which differ significantly from ideal templates. Similar results are shown with LIGO matched filter, which misfires with high Signal to Noise Ratio (SNR) for bogus chirp templates.

Comments: Corrected typographical errors, updated names, references and acknowledgement section

Subjects: **Signal Processing (eess.SP); Instrumentation and Methods for Astrophysics (astro-ph.IM)**

Cite as: [arXiv:1711.07421 \[eess.SP\]](#)

(or [arXiv:1711.07421v2 \[eess.SP\]](#) for this version)

# ZURAB K. SILAGADZE



## Alleged correlated noise in LIGO data and the Schumann resonance transients

[Z.K. Silagadze](#)

(Submitted on 27 Jul 2017)

Recently it was claimed that the LIGO residual noise at the time of the GW150914 gravitational-wave detection event contains some unexplained correlated noise. At that the noise correlations are maximized at the same time-delay as the signal correlations in two LIGO detectors. We argue that the Schumann resonance transients excited by strong lightnings and Q-bursts in Africa will have just this time lag of about 7~ms. Therefore if the correlated noise related to the Schumann resonance transients is indeed present in the LIGO data, its "African part" will show just the proper time-delay and its coincidence with the gravitational-wave time delay is only a coincidence.

Comments: 10 pages, one table

Subjects: **Instrumentation and Methods for Astrophysics (astro-ph.IM);**  
General Relativity and Quantum Cosmology (gr-qc)

Cite as: [arXiv:1707.09047 \[astro-ph.IM\]](https://arxiv.org/abs/1707.09047)  
(or [arXiv:1707.09047v1 \[astro-ph.IM\]](https://arxiv.org/abs/1707.09047v1) for this version)

# Izabela Kowalska-Leszczynska1 et al

## Globally coherent short duration magnetic field transients and their effect on ground based gravitational-wave detectors

Izabela Kowalska-Leszczynska<sup>1</sup>, Marie-Anne Bizouard<sup>2</sup>, Tomasz Bulik<sup>1</sup>, Nelson Christensen<sup>3,4</sup>, Michael Coughlin<sup>5</sup>, Mark Go lkowski<sup>6</sup>, Jerzy Kubisz<sup>7</sup>, Andrzej Kulak<sup>8</sup>, Janusz Mlynarczyk<sup>8</sup>, Florent Robinet<sup>2</sup>, Max Rohde<sup>3</sup> 1Astronomical Observatory Warsaw University, 00-478 Warsaw, Poland 2LAL, Université Paris-Sud, CNRS/IN2P3, Université Paris-Saclay, 91400 Orsay, France 3Physics and Astronomy, Carleton College, Northfield, MN 55057, USA 4Université Côte d'Azur, Observatoire Côte d'Azur, CNRS, ARTEMIS UMR 7250, 06304 Nice, France 5Department of Physics, Harvard University, Cambridge, MA 02138, USA 6Department of Electrical Engineering, University of Colorado Denver, Denver, CO 80204, USA 7Astronomical Observatory, Jagiellonian University, Krakow, Poland 8AGH University of Science and Technology, Department of Electronics, Krakow, Poland

### Abstract.

It has been recognized that the magnetic fields from the Schumann resonances could affect the search for a stochastic gravitational-wave background by LIGO and Virgo. Presented here are the observations of short duration magnetic field transients that are coincident in the magnetometers at the LIGO and Virgo sites. Data from low-noise magnetometers in Poland and Colorado, USA, are also used and show short duration magnetic transients of global extent. We measure at least 2.3 coincident (between Poland and Colorado) magnetic transient events per day where one of the pulses exceeds 200 pT. Given the recently measured values of the magnetic coupling to differential arm motion for Advanced LIGO, there would be a few events per day that would appear simultaneously at the gravitational-wave detector sites and could move the test masses of order 10–18 m. We confirm that in the advanced detector era short duration transient gravitational-wave searches must account for correlated magnetic field noise in the global detector network.

# YOSHIAKI HIMEMOTO and ATSUSHI TARUYA

Impact of correlated magnetic noise on the detection of stochastic gravitational waves: Estimation based on a simple analytical model

Yoshiaki Himemoto and Atsushi Taruya  
Phys. Rev. D **96**, 022004 – Published 12 July 2017

Article	References	No Citing Articles	PDF	HTML	Export Citation
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> ABSTRACT

After the first direct detection of gravitational waves (GW), detection of the stochastic background of GWs is an important next step, and the first GW event suggests that it is within the reach of the second-generation ground-based GW detectors. Such a GW signal is typically tiny and can be detected by cross-correlating the data from two spatially separated detectors if the detector noise is uncorrelated. It has been advocated, however, that the global magnetic fields in the Earth-ionosphere cavity produce the environmental disturbances at low-frequency bands, known as Schumann resonances, which potentially couple with GW detectors. In this paper, we present a simple analytical model to estimate its impact on the detection of stochastic GWs. The model crucially depends on the geometry of the detector pair through the directional coupling, and we investigate the basic properties of the correlated magnetic noise based on the analytic expressions. The model reproduces the major trend of the recently measured global correlation between the GW detectors via magnetometer. The estimated values of the impact of correlated noise also match those obtained from the measurement. Finally, we give an implication to the detection of stochastic GWs including upcoming detectors, KAGRA and LIGO India. The model suggests that LIGO Hanford-Virgo and Virgo-KAGRA pairs are possibly less sensitive to the correlated noise and can achieve a better sensitivity to the stochastic GW signal in the most pessimistic case.

## **NOBEL PRIZE AND AFTER**

To me the news of the LIGO Nobel Prize was the intellectualdom's equivalent of the news of 9/11: A very basic trust, a primal trust that we humans universally covenant despite all our differences, was breached. A red line was crossed. Not a line in the sand, but a line in the landscape of our civilization. This is where I resolved to take the final stand.

The LIGO Nobel Prize was no mistake or error of judgement. No one should try to find an innocent explanaion for this evil transgression. It was a deliberate decision to entrench fraud science with extreme haste. It was the ultimate power play. With repeated successful installatiion of fraudulent discoveries, the Swedes developed some kind of god complex. What they declared to be the nature of the Universe, the world would accept it as their Universe.

I, for one, am not going to take this anymore.



# LIGO: AN AMICUS CURIAE BRIEF

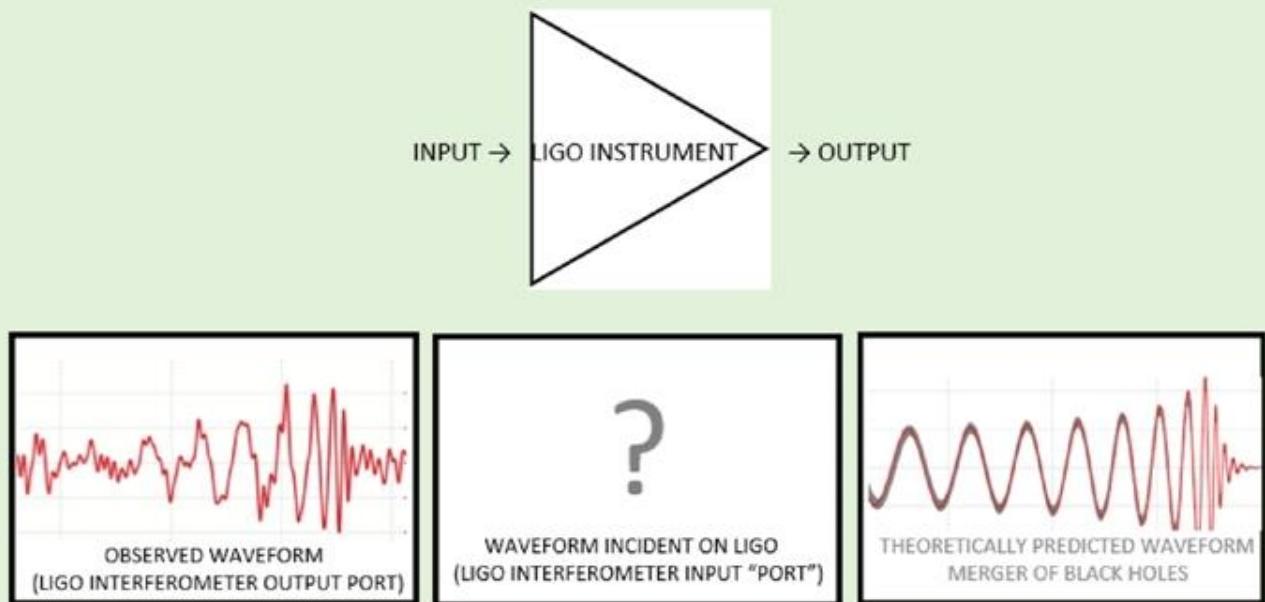
To: Kavli Astrophysics Prize Committee 2016

Physics Nobel Prize Committee 2017

Sub: Laser Interferometer Gravitational-wave Observatory's discovery

The LIGO instrument suffers from numerous scientific and engineering faults - many of them fatal. But here is a simplified sketch of one of the central stratagems behind the discovery of gravitational wave and black hole merger.

Most scientific instruments – as with LIGO – can be seen to have an input port and an output port. There is an input signal and an output signal. Generally, one of these is measured, and the other is inferred therefrom. The inferred signal then may be used to construct a theory or to test a preexisting theory.



The LIGO output port signal is the observed waveform. LIGO input port signal is to be backed out from the observed signal using the *instrument transfer function*. For LIGO this function and therefore the input waveform are indeterminate. So the scientists simply slipped in in its place their theoretically predicted waveform which they tailored to match the observed waveform. The discovery followed. There was no cause-and-effect link between observation and theory.

There is no evidence that LIGO ever underwent a proper evaluation by professional engineers unconnected to the academia. *The Physical Review Letters* would not have conducted such a review before publishing the LIGO paper and thereby positing it as a discovery. This publication has no probative value whatsoever.

05/18/2016

# 2017 PHYSICS NOBEL PRIZE

## *Should you laugh or cry?*

The prize was given for detection of gravitational wave with the LIGO instrument. Up until now, four detections have been reported. The following scientific "points and authorities" were in full view of public when the ludicrous decision to award the Prize was made.

(a). The observations were those of an entirely expected terrestrial phenomenon known as Schumann resonant transients – a type of ubiquitous global geomagnetic disturbance spreading from lightning strike somewhere. This explains very simply the near-simultaneity of the observations at two or three distant stations, and the jagged signal profiles. The LIGO design is (unintendedly) capable of receiving and reporting these electromagnetic signals.

(b). The impressively detailed matching of the observed signal profile to that modeled for binary black hole merger must be dismissed out of hand because the observed signals were improperly extracted, because the model has enormous tweaking capacity, and because there is no way to back out the LIGO incident waveform from the observed output waveform.

(c). There is exactly zero evidence that the two independently hung LIGO mirrors have been set in entangled motion, and that the motion amplitude is  $\sim 1/10,000$ -th of the proton diameter, as required for gravitational wave incidence. This is purely a cock-and-bull story. Take away this false story, and there is no discovery.

(d). There is no calibration curve for LIGO displacement. All quantitative reports ( $x$  solar mass,  $y$  light years etc.) are garbage.

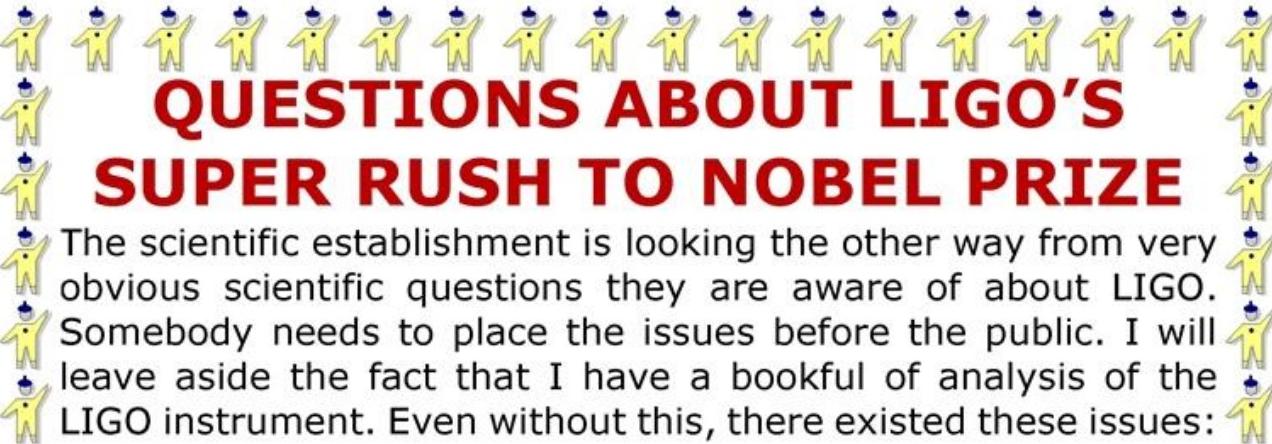
(e). LIGO's vaunted vibration isolation system – essential to the discovery – is in experimental evidence as not working as stated.

(f). LIGO functioning is crucially dependent on the Earth's static magnetic field. LIGO scientists and engineers are in evidence as being serenely unaware of this crucial effect on their instrument.

There was never a scintilla of evidence that LIGO observed, or is even capable of observing, a gravitational wave, if such waves exist. Anybody that tells you different is either a wily fraud or a person who does not know his --- from a hole in the ground.

This Nobel Prize would be a laughable quackery had it not been for the fact that it casts a sepulchral pall upon our scientific civilization.

A world education message from Bibhas De 10/04/2017



# QUESTIONS ABOUT LIGO'S SUPER RUSH TO NOBEL PRIZE

The scientific establishment is looking the other way from very obvious scientific questions they are aware of about LIGO. Somebody needs to place the issues before the public. I will leave aside the fact that I have a bookful of analysis of the LIGO instrument. Even without this, there existed these issues:

1. **LIGO does not document a calibration curve that would permit them to arrive at their staple numbers like  $x$  solar masses or  $y$  light years. The only response LIGO has given in this regard (to Wolfgang Engelhardt) is "You do not understand."**
2. **When LIGO extracted signal from the data, they admitted that some signal was left behind. That being the case, the theory/experiment comparison of waveforms is in question. The only response LIGO has given in this regard (to the Danes) is "You do not understand."**
3. **LIGO has never addressed in public the extensive and fatal issues about observing Schumann transients. They maintain a KGB-like silence.**
4. **LIGO claimed that their vibration isolation system needed to reduce this noise component orders of magnitude below the expected signal. But this was not evident in the case for their detections.**

With these questions clouding LIGO, how could a decision to award the Prize to LIGO at "the earliest convenience" be made? If any satisfactory answers on the above issues were privately given to the Nobel Committee, why were they withheld from the public? Why is LIGO Collaboration run like MI-6, shielded from conventional scientific accountability to the peer groups?

A world education message from Bibhas De 10/04/2017

# NOBEL PRIZE CANCELLED



The 2017 Nobel Prize in Physics was awarded to Rainer Weiss, Barry Barish and Kip Thorne for the detection of gravitational waves. Their

billion-dollar LIGO instrument network (unintendedly but explicably) picked up transient geomagnetic disturbances traveling around the globe along the ionospheric cavity (the spherical shell formed by the Earth's surface and the top of the ionosphere), disturbances created by local lightning strikes somewhere on Earth. **Four times** these men passed off these well-known disturbances as gravitational waves from billions of light years away, by concocting a cock-and-bull fable about how their instrument works to detect these waves. This is like a conman painting a house sparrow in iridescent colors and selling it as a storied exotic bird from the Amazon rainforest.

This is the **second** grand space-age fraud by Rainer Weiss. He led the COBE Satellite's fraudulent discovery of cosmic blackbody (which won a Nobel Prize in 2006 for John Mather and George Smoot). This is the **fifth** time since 1978 that the Nobel Committee aided and abetted to install grand-scale American science fraud as legitimate grand science. There is emerging a pattern here. Read my books *The Falsifiers of the Universe* and *Unchallenged Privilege*. I ask all good folks to reject what these Nobel Prizes stand for. — Bibhas De 10/03/2017

HOW THE NOBEL PRIZES ARE RAMMING FRAUDULENT SCIENCE DOWN

# **THE GULLET OF THE WORLD**

TIME AFTER TIME AFTER TIME AFTER TIME ....

**The 2017 Nobel Prize for Physics is the fifth time a fraudulent grand discovery was anointed by the Nobel Prize organization. And they never retract anything. They are systematically corrupting our scientific civilization which was created with the talent and the toil of so many good men and women over so many eons with so much love and passion. Nobel is liquidating all.**

## **The Swedish Nobel Committee for Physics 2017**



Nils Mårtensson, Mats Larsson, David Haviland, Olga Botner, Thors Hans Hansson, Gunnar Ingelman

## **The American Nobel Laureates in Physics 2017**



Rainer Weiss, Barry Barish, Kip Thorne

**Take a good look at these deceivers of mankind. In December of 2017 they will be regaled by the King of Sweden with lobster and caviar. Against them, the world has no defense. Their mighty establishment stands by them. The government bankrolls them. The media promotes them. Be afraid, very afraid! There is a pod being readied for each of you. Do not fall asleep! Do not fall asleep!!**

A Duty-to-inform message from Bibhas De 10/20/2017



# THE SWEDISH LIE



## The Nobel Prize in Physics 2017



Photo: Bryce Vickmark  
**Rainer Weiss**  
Prize share: 1/2

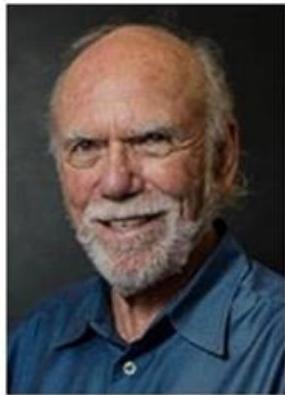


Photo: Caltech  
**Barry C. Barish**  
Prize share: 1/4



Photo: Caltech Alumni  
Association  
**Kip S. Thorne**  
Prize share: 1/4

The Nobel Prize in Physics 2017 was divided, one half awarded to Rainer Weiss, the other half jointly to Barry C. Barish and Kip S. Thorne "for decisive contributions to the LIGO detector and the observation of gravitational waves".

## THE SCIENTIFIC TRUTH

The LIGO detector is a totally worthless contraption. Its value is equal to the value of the scrap metal at ~\$90/ton. To say that it observed gravitational wave is an act of scientific incompetence whose magnitude is beyond comprehension. More likely, the above lightning-rapid award stems from a nefarious transatlantic collaboration in urgent need of covering up a billion-dollar fraud conducted with US taxpayer money under the Swedish Royal Family razzle dazzle.

**Duty to Inform**

A world education message from Bibhas De 11/23/2017

# **THE DECLINE AND FALL OF ALFRED NOBEL**

## **IN THE HANDS OF THE ROYAL SWEDISH ACADEMY OF SCIENCES**



**1978**



**2006**



**2011**



**2017**

**Successive and deliberate awards of the Nobel Prize in Physics for increasingly grand and escalatingly fraudulent discoveries have now thoroughly destroyed the good name of a man who meant to do well.**

**The blatancy with which the 2017 Prize was decided upon over correct and responsible scientific objections is an assault on the entire society. And yet, like so much listless cattle on a wasteland, we are standing by idly, watching emboldened groups of douchebags and scumbags and sleazeballs in noble mantles gang-rape our unprotected civilization – again and again and again.**

A Duty-to-inform message from Bibhas De 11/06/2017

# COUNTDOWN TO CIVILIZATION'S END

## CLOSING CEREMONIES IN SWEDEN

10 DECEMBER 2017

Nero fiddled while Rome burned.  
The Lords and Ladies of the House of Bernadotte will revel  
and dine and dance in elegance as our civilization burns.  
**CELEBRATORY CONCERT BY A DUDE NAMED DUDAMEL**



Gustavo Dudamel conducting.  
Photo: Vern Evans/Los Angeles Philharmonic

### THE OPULENT BANQUET (example menu from 2016)

Charcoal baked langoustine and scallop,  
served with nettles, ramson and pickled winter apples

Quail from Södermanland in black garlic and leek ash  
with Jerusalem artichoke, preserved wild mushrooms  
and jus of roasted chicken skin and mustard seed

Cloud of sudachi fruit, cloudberry sorbet, miso crumbs  
and deep-fried rice paper

#### Wine

Taittinger Comtes de Champagne Brut Blanc de Blancs 2006

Piccini Poggio Teo Chianti Classico 2010

Moncaro Tordiruta Passito 2007

**CE DAY MINUS SEVEN** 12/3/2017

# COUNTDOWN TO CIVILIZATION'S END

## CLOSING CEREMONIES IN SWEDEN

10 DECEMBER 2017



On CE DAY the intellectual Morlocks take over your world. They were man-eating creatures that lived underground and smelled of putrid flesh. But now they have ventured above ground, put on noble attire and daubed themselves with cheap aftershave lotion. They still eat human flesh, but with serviette and knife and fork.

You can adapt to their ways and survive in the new world.

Or you will surely become steak tartare.

The oft-chanted worldview of the new masters of the Universe:

*Who is the Sayer of the Final Law?*

*King Gustaf is the Sayer of the Final Law.*

*What is the Final Law?*

*Freedom to discover whatever you wish,*

*That is the Final Law.*

*Who is the Sayer of the Sublime Truth?*

*Kip Baba is the Sayer of the Sublime Truth.*

*What is the Sublime Truth?*

*That which was utter falsehood is the Sublime Truth.*

*Who is the Maker of the Divining Tool?*

*Rai Baba is the Maker of the Divining Tool.*

*What is the Divining Tool?*

*That which earns a Nobel is the Divining Tool.*

*Hare Kippy Hare Kippy Hare Kippy Hare Hare,*

*Hare Rai Hare Rai Hare Rai Hare Hare.*

**CE DAY MINUS SIX** 12/4/2017

# COUNTDOWN TO CIVILIZATION'S END

## CLOSING CEREMONIES IN SWEDEN

10 DECEMBER 2017

The organizations that would run the new world are all in place, under deep cover. But we have seen their handiwork repeatedly: Successive European cover up of billion-dollar American fraud (COBE Satellite, WMAP Satellite, BICEP2, and LIGO). It is believed that the organizations are built along the lines of mightily effective ones from yesteryear. The overall umbrella organization is believed to be:



Under this broad umbrella comes a multitude of Directorates to oversee specific areas of nefarious activities worldwide. The Directorate that oversees the ongoing gravitational wave fraud is believed to be:



The Directorate that oversees the campaign of using the Nobel platform to corrupt the world is believed to be:



CE DAY MINUS FIVE 12/5/2017

# COUNTDOWN TO CIVILIZATION'S END

## CLOSING CEREMONIES IN SWEDEN

10 DECEMBER 2017

How the excesses of the intellectuals cause  
**THE FINAL DECLINE  
OF THE  
CIVILIZATION**

In 2010, I posted an article *Physics in the Age of Fakery* where I used this image as the frontispiece. In seven years, the decline is complete!

By many accounts, Edward Witten is the highest intellectual living today. So let's look at his excesses. He has done a great deal of frou-frou math which passes for physics. In the long view, he will prove to be totally inconsequential to physics. But he is using his influence so gained to systematically corrupt our world. **THE SWEDISH CONNECTION:** He was most likely a prime mover behind the LIGO Nobel Prize. He certainly used his perceived authority to endorse the discovery to the hilt, most publicly. (Never mind that he actually has no authority to endorse advanced scientific instrumentation.) **THE RUSSIAN MONEY CONNECTION:** Witten teamed up with Russian billionaire Yuri Milner to sequentially anoint a number of American physics fraud greats. Just two days ago, they anointed serial science fraud Charles Bennett (COBE→WMAP fraud). When a Russian tycoon and an American sage team up to promote fraud, it is time to worry.



Edward Witten (right) being felicitated by the King of Sweden

**CE DAY MINUS FOUR** 12/6/2017

# COUNTDOWN TO CIVILIZATION'S END

## CLOSING CEREMONIES IN SWEDEN

10 DECEMBER 2017

***When Nobel was a good word  
(Many confused it with, or  
thought it was, Noble)***

### MY TEACHER HANNES ALFVÉN (1908-1995)



Was a giant of physics  
Made true and lasting contributions  
Received Nobel Prize in Physics (1970)  
Was a fine son of Sweden

### ALFVÉN'S TEACHER MANNE SIEGBAHN (1886-1978)



Was a giant of physics  
Made true and lasting contributions  
Received Nobel Prize in Physics (1924)  
Was a fine son of Sweden

**CE DAY MINUS THREE** 12/7/2017

# COUNTDOWN TO CIVILIZATION'S END

## CLOSING CEREMONIES IN SWEDEN

10 DECEMBER 2017

The Physics Nobel Prizes in 2011 and 2017 had something in common: A discovery that was in plain public evidence as blatant fraud was blatantly anointed and forced down the gullet of the world.

### The Swedish Nobel Committee for Physics 2011



Borje Johansson, Staffan Normark, Lars Brink and Olga Botner

### The Swedish Nobel Committee for Physics 2017



Nils Martensson, Mats Larsson, David Haviland, Olga Botner,  
Thors Hans Hansson, Gunnar Ingelman

The 2011 prize was for the American discovery of the acceleration of the expansion of the Universe. This discovery rested on the Big Bang expansion model established by the American COBE Satellite discoveries (Nobel Prize in 2006). Those discoveries stood fully exposed as fraud when the 2011 Committee 'deliberated'. A fraudulent discovery was knowingly anointed with a Nobel Prize based on another fraudulent discovery that had earlier been anointed with a Nobel Prize. In 2017 the prize was given for the American detection of gravitational wave with a billion-dollar contraption that stood fully exposed as a Rube Goldberg machine when the Committee deliberated. And yet, they knowingly shoved this discovery down the gullet of the world.

Here's a John Le Carré plot about a deep-cover American mole planted in the Swedish Nobel Committee. The sleeper agent is activated by a transatlantic phone call when needed to anoint fraud.

**CE DAY MINUS TWO** 12/8/2017

# **COUNTDOWN TO CIVILIZATION'S END**

## **CLOSING CEREMONIES IN SWEDEN**

10 DECEMBER 2017

**The Swedes have betrayed humanity  
once too often.  
Tonight a civilization dies.  
The last person out turn off the lights.**

**CE DAY MINUS ONE** 12/9/2017



# CIVILIZATION'S END

CLOSING CEREMONIES IN SWEDEN

TODAY 10 DECEMBER 2017



Your civilization has been terminated.  
The Swedes have broken the seventh seal and  
unleashed that pestilence which targetedly  
destroys old-world values like truth and honesty,  
conscience and sentience, responsibility and  
accountability. Deceit is the coin of the realm.



For you are now in the **Nobel-faked World**.  
You must now join the Parade of Apocalypse.  
This is your life – this macabre dance to death.



10 December 2017

## LIGO AND HIS AMAZING TECHNICOLOR TRENCHCOAT

Most world citizens readily grasp the apocalyptic evil of Kristallnacht or 9/11. But when like evil transpires in the arena of knowledge and intellect, few people grasp or care. The few who do grasp do not care or act. But they all must. It is their world, and a transatlantic shadow alliance is systematically perverting and denaturing it. This is why I have become a Cassandra on the horn, relaying to you the barely audible distress call of Civilization from the astral place where she weeps silently.

For some four decades, the Swedes have forcefully installed patently false but grandiloquent scientific discoveries by corrupting their Nobel Prize apparatus. Once thus installed, these false edifices are quickly expanded to occupy all available space and resources. National coffers are being looted by duping the Governments. Brainpower is being diverted. Vigilance of the scientific community? They act like Stepford Wives. When the scientific falsehood is exposed by rare men with the stones to do so, no note is taken. The evil marches on.

At school and on PBS, children learn about a falsified Universe. They are presented with great role models of science who are just douchebags who were passed through the sleazy Star-On Machine. These hombres are in truth flashers in Technicolor Trenchcoats, right in the schoolyard. Wake up before it is too late!



Nobel Prize in Physics 2017

## **AN OBSCENE BANQUET IN SWEDEN**

**As Rome burned, Nero fiddled.  
As Civilization died, Gustaf dined.**

His Majesty's dinner guests:  
His Fraudulency Kip Stephen Thorne, Caltech  
His Serial Fraudulency Rainer Weiss, MIT

### Menu

Pressed and dried Jerusalem artichoke, served with kohlrabi flowers  
flavoured with ginger and lightly roasted cabbage broth

Crispy saddle of lamb, potato terrine with Svedjan crème,  
yellow beet, salt-baked celeriac, apple salad and rosemary-spiced lamb gravy

Frosty bilberry bavaroise, bilberry ice cream with lemon thyme,  
lime jelly, lime curd and lime meringues

### Wines

Taittinger Brut Réserve

Domini la Cartoixa Formiga De Vellut 2014

Viña Errázuriz Late Harvest Sauvignon Blanc 2016

**Duty to Inform**

A world education message from Bibhas De 12/10/2017

## Was this a **PUBLIC ACKNOWLEDGEMENT OF LIGO FRAUD?**



FIGURE 1: Everyone links arms but the Crown Princess and Kip Thorne.



FIGURE 2



FIGURE 3

**THE OBSERVATION:** In the 2017 Nobel Ceremonies, something stood out like a sore thumb. In the Nobel Entrance Procession to the banquet hall, Crown Princess Victoria and LIGO discoverer Kip Thorne did not link arms (Figure 1). Everyone else did – per long-traditioned custom. This is a most incongruous scene that happened for a reason. Does the Crown Princess, by protocol, not link arms? No. See Figure 2 from a previous year. Did the Crown Princess need both her hands free to manage her flowing dress? No. See Figure 2 again. Was Kip Thorne awkward, and did not think to link arms? No. See Figure 3 where – in a backroom and away from public eyes – there was a photo-op where the same two linked arms. Thorne looks quite debonair and comfortable. Later Thorne would dance up a storm with his wife in front of the huge festive crowd.

**THE EXPLANATION:** The only explanation remaining is that this *Noli Me Tángere* was pre-scripted by the event planners. Now read my speculation below. 12/22/2017

# LIGO GETS ROYAL SNUB



at the Nobel Prize award ceremony on 10 December 2017. Breaking with long tradition and unbroken custom, the Crown Princess of Sweden pointedly did not offer her arm to her designated escort, LIGO Nobel Laureate Kip Thorne who stood accused of fraud.

**The world shall not be deceived.**

**Duty to Inform**

A world education message from Bibhas De 12/24/2017

# KIP THORNE'S NOBEL HUMILIATION



In the Nobel Prize Award Ceremony in Stockholm on 10 December 2017, the historical Banquet Entrance Procession is staged in a backroom where Crown Princess Victoria links arms with her designated escort Thorne. A royal photographer takes a still shot.

The cortège moves along and comes into public view. At exactly that point, the Princess turns to



Thorne, holding her dress with two hands, as if to say: *I have to hold my dress with two hands (and so cannot link arms with you.)*

The cortège proceeds, with a dejected-looking Thorne fending for himself while all the other

pairs link arms, as they have traditionally done for over a century of the Nobel lore. Whether intendedly or unavoidably, a stark incongruity was presented to the world, broadcasting that there was something the matter with Thorne's presence there.

I am sorry I am acting like a gossip columnist. I don't like this (O the things I do for science!) But this is a damn serious



business that the thoroughly corrupt media pointedly did not report. This is a loud and clear Swedish acknowledgement that they screwed up badly in awarding the LIGO Nobel Prize. LORD HAVE MERCY!

**Duty to Inform**

A public education message from Bibhas De 03/06/2018

## KIP THORNE'S HOMETOWN HUMILIATION

In no less a place than his own hometown where he went back expecting a hero's welcome after garnering the LIGO Nobel Prize, Thorne faced pointed public humiliation.

Before Thorne, Logan UT had another hometown boy Lars Hansen win the Economics Nobel in 2014. A proud city renamed a major thoroughfare *Lars Hansen Drive*.



When Thorne received his Nobel in Physics in 2017, the city fathers again were faced with the pleasant task of likewise renaming another thoroughfare. But after "thoughtful" deliberation it was decided to *not* actually rename any streets after Thorne. Instead, they would just place a sign saying *Kip Thorne Boulevard* in a street corner (map added):

During his visit, the city of Logan will name a street near Thorne's childhood home in his honor. According to public works director Paul Lindhardt, the street will still

be known as "The Boulevard" officially, but it will also feature a sign that reads "Kip Thorne Boulevard" at 405 East and 200 North. (HJNews, June 12, 2018)



So Hansen gets a major street in perpetuity and Thorne gets a little fake sign. When it becomes necessary, the sign can be taken down with just a screw driver.

A public education message from Bibhas De 07/22/2018

LATERAL EVENTS PRESENTS

WHAT'S



— LIVE ON STAGE —

# PROF KIP THORNE

AMERICAN THEORETICAL PHYSICIST AND  
NOBEL LAUREATE

## PROF ALAN DUFFY

ASTRONOMER

## ROBIN INCE

BRITISH COMEDIAN

'Let's talk gravitational waves, black  
holes, wormholes, dark matter and  
time travel'

TOURING SEPTEMBER 2018

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# KIP THORNE'S AUSSIE HUMILIATION? NEXT ON VICTORY LAP AFTER CHINA: AUSTRALIA!

## What's NEXT? Tickets

### TICKETS & EVENT INFO

Venue:  
Brisbane Convention & Exhibition Centre, QLD

Date:  
Thu 13 Sep 2018 7:30PM



**Presented by:** Lateral Events

### LET'S TALK GRAVITATIONAL WAVES, BLACK HOLES, WORMHOLES, DARK MATTER AND TIME TRAVEL.

Lateral Events is delighted that American Nobel Prize-winning theoretical physicist Professor Kip Thorne has accepted our invitation to travel to Australia to lead an eminent panel discussion delving into how scientific advances will change how we live our lives and how the world we live in will change for ever.

Kip Thorne will discuss the area of his Nobel Prize work: the past, present and future of gravitational wave research and multi-messenger astronomy, their remarkable technology, and their future impact on human understanding of the universe in which we live.

Joining Kip Thorne will be astronomer Professor Alan Duffy and Robin Ince, co-host of The Infinite Monkey Cage and award-winning British comedian.

## Oopsie!

### EVENT CANCELLED

It is with regret that Lateral Events announces that despite our best efforts, What's NEXT? has been cancelled in Brisbane.

08/12/2018

## PHOTO-OP WITH LIGO NOBELIST



From left: Prof Ananya Jahanara Kabir, Prof Ritabrata Munshi, Prof Lawrence Liang, K Dinesh, Prof Kip Thorne, N R Narayana Murthy, Prof Sanghamitra Bandyopadhyay, Prof Upinder Singh Bhalla and Prof Yamuna Krishnan at the Infosys Award 2017 presentation ceremony in Bengaluru on Wednesday | VINOD KUMAR T

At the Infosys Prize 2017 award ceremony, none of the six awardees in this photo-op initially stood next to Kip Thorne. An organizer is trying to coax an awardee – not too gently - to do so.

Bibhas De 09/08/2018

# SHAKE HANDS WITH LIGO NOBELIST?

Ever heard of an award-giving ceremony where the felicitation handshake is at the initiative of the awardee? What would you, an awardee, do if you were given heads up that your felicitator is a science fraud? Would you, mindful of your future dignity, shake hands with him on permanent video record? Here's how the awardees acted when Kip Thorne handed out the Infosys Prize 2017 in Bangalore, Jan 10, 2018. (Heads up in the graphic below.)



CLOCKWISE FROM TOP LEFT: (1). An awkward, uncompleted attempt at handshake by the first awardee. (2). No attempt. (3) Full handshake initiated by the fourth awardee. (4) No attempt. (5) No attempt. (6) No attempt.

Bibhas De 09/08/2018

# THE NOBEL EVIL



"However, today we are seeing new threats against further progress. Science, rational thinking and the quest for knowledge are being questioned even in parts of the world where they have been taken for granted. Cross-border trade and cooperation are being resisted...."

- Carl-Henrik Heldin, Chairman of the Board of the Nobel Foundation, delivering the Opening Address at the Nobel Prize Award Ceremony in Stockholm, 10 December 2017.

I cannot say what he is referring to here, but it sounds to me like Trump-bashing. One Nobel Laureate who followed also blasted Trump there.

Trump-bashing is a discreet charm of the intellectual bourgeoisie. I get it. But NSF, MIT and Caltech defrauded the American taxpayers for decades. Nobel Prize just blessed that fraud. Where do you get Trump?!

It is the Nobel Prize that has been deliberately and systematically corrupting science for forty years with some kind of hidden agenda. They are conducting this from within a KGB-like secrecy which prevents any doubting scientific experts from questioning the endorsement. These experts then give up in helplessness. Lay citizens of the world instinctively assume that the Nobel Prize is the final word on scientific discoveries.

The single most real and present threat to science today – an existential threat because so much public money is being looted – is the Nobel Prize in Physics. The manmade global warming proponents and opponents – for example – are conducting their debate in full view of the public. It is an open process. If the bad side wins out, the public has only itself to blame.

But the Nobel Prize is an absolute diktat. Forty years of accumulated and compounded science fraud – fully exposed as such in public documents – today glories as legitimate science. Your children learn this fraud in school, on PBS Nova or in science museums. It is the Nobel Foundation that is perverting "Science, rational thinking and the quest for knowledge". Not President Trump. He does not have that kind of power.

**Duty to Inform**

A world education message from Bibhas De 12/13/2017

## **THE NOBEL: Temporary hiccup or final decline?**

By 2018, some deep malaise in the Body Nobel surfaced. There was in public view signs of trouble: a simmering discord among the prize-deciding body, the money-giving body, and the nobility-bestowing body.

### ***PHYSICS: Planned promulgation of American serial fraud***

When, for the fourth time in as many decades, the Prize was given in 2017 to a fraudulent American discovery in unseemly haste (in the earliest year possible), and in the face of public scientific condemnations of the discovery, it became all too clear that the Swedish Nobel Committee was in bed with American physics powerbrokers with private agenda. In a stark visual spectacle that followed in the gala evening of the Nobel celebration, Crown Princess Victoria of Sweden declined to link arms with her designated escort, the fraud Nobelist Kip Thorne. Upon this public humiliation, a smiling Thorne suddenly turned visibly livid in the worldwide telecast. More public humiliation of Thorne would



follow. The Nobel talisman could not protect him. The iconic face of Nobel-giving here was not a Swede. It is Olga Botner, a Polish-born Dane who seems to hold great sway over the Royal Swedish Academy of Sciences, the prize-deciding body. Botner had helped anoint another American fraud in 2011. She is Chairman of the 2018 Nobel Committee.

### ***LITERATURE: Salacious sex scandal, betting scandal***

The Literature Prize for 2018 (and may be even 2019) is suspended following a great rift between the prize-deciding body, the Swedish Academy, and the money-giving body, the Nobel Foundation. The latter reportedly had to read the former the riot act. And the King of Sweden considered intervening as the formal head of the Academy. At the root was an Academy-connected alleged sexual predator who was also allegedly involved in a Nobel-betting tip off racket. There emerged a querulous and long-standing disarray within the Academy. It emerged



that the Royal Palace had once directed that a celebration not allow this predator to be alone in a room with Crown Princess Victoria. The face of the Nobel corruption that emerges here is not a Swede. It is Jean-Claude Arnault, a Frenchman, now under criminal indictment in Sweden.



## **NOBEL PRIZE LESSONS**

The Nobel Prize Lesson graphics are self-explanatory. What the reader should take from this is what the Swedes are seeking to do to the world's young. Every citizen of the world has a stake in this.



## Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



The Nobel Foundation is making a major thrust to bring inspiration from the Nobel lore to kids around the world. The yellow thingy above is their banner for this new crusade.

What is the responsibility of the parents around the world here? It is to say: "Katy, bar the door!"

For forty years the Nobel Prize in Physics has created Nobel Laureates out of intellectual scammer and fraudsters from the United States. This was a deliberate and concerted act by a SPECTRE-like transatlantic shadow alliance.

When these activities were expertly investigated and revealed, the Nobel folks did not retract anything. Instead, they are emphatically maintaining the frauds as legitimate discoveries.

Do you want to subject your young'uns to the Nobel Crusade?

### Duty to Inform

A world education message from Bibhas De 12/15/2017

## Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



### HOW YOUR CIVILIZATION WAS DESTROYED

Civilization advances on the back of human intellect. The vanguards of the evolution of human intellect are the scientists. The vanguards among the scientists are the physicists. So the physicists in any age represent the growing tips that will green up the magnificent meadow of the civilization.

As I have exposed forty years' worth of Nobel-blessed physics fraud, tens of thousands of active physicists around the world have remained completely silent – to a man. Not only have they not acknowledged this metastasized disease in the body of their own science, many of them continue to merrily ride on waves upon waves of grand fraud – with your money. They have all become thoroughly diseased – to a man.

No sooner a little green growth starts to appear on the meadow than there wanders in an old donkey and munches it all away.

### Duty to Inform

A world education message from Bibhas De 12/17/2017

## Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



Yo kids! Here's the essence of the Nobel Prize Lessons to guide you in this Nobel-faked world:

***He fareth well who scammeth well.***

Take for instance John Mather who was the greatest science fraud in history until the LIGO discovery. He was deliriously happy, and flying high after his Nobel Prize. He even gloried: "I love being a celebrity Nobel Laureate."

But, like the Cinderella story, the clock struck midnight. Mather today is finished, washed out. He is a nobody. The physics community avoids him. He has teamed up with an organization that reportedly preys on the vanity of young people and dispenses inspiration to them for profit.

The Nobel name could not save John Mather. Nor could his powerful and fearsome friends. His own peer group had the final say. They always will.

**Duty to Inform**

A world education message from Bibhas De 12/18/2017

# Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



### INDIANA JONES OF PHYSICSDOM

Young people, do you want to become the modern-day Indiana Jones – a kind of Einstein, Allan Quatermain and James Bond, all rolled in one? Then I've got just the role model for you: Nobelist George Smoot! He did it all – hunted to put meat on the table, flew in U-2 spy plane, and scoured deep jungles to look for the lost ark instrument. And bagged a Nobel to boot. He has met a Potentate and a Pope. And of course Sheldon Cooper and friends. He is also *smarter than a fifth grader*.

Smoot and Nobelist John Mather were two lieutenants of Nobelist Rainer Weiss in the early 1980s when the COBE Satellite program took shape. Mather's experiment was designed to verify that a microwave radiation component in the sky had the spectrum of a  $\sim 3$  K blackbody – predicted by Big Bang Theory. Smoot's experiment was designed to map the distribution of that radiation over the sky. So Mather would prove that the radiation was from Big Bang, and therefore Smoot would map the Big Bang relic Universe on the sky.

And sure enough! Mather's experiment found a picture-perfect 2.7 K blackbody spectrum on the sky. And deep inside the deep recesses of COBE, Smoot had an instrument output port marked with the Greek letter  $\Delta$ . When Smoot looked at that port as the satellite scanned the skies, he was able to construct a map with features that correspond to Big Bang Theory. Together, the two experiments proved Big Bang Theory beyond a shadow of doubt. Such heroic sagas of science!

Oh kids, there's just a little more to this story. Mather's experiment was a very indirect measurement. It needed corroboration but there reportedly was none. What Georgie Boy did not tell anyone – and no one figured out – was that right next to the  $\Delta$  port, there was another port marked  $\Sigma$ . What did it do? It directly measured three points right near the defining peak of Mather's spectrum. So here was the method of *direct* corroboration of Mather's indirectly measured spectrum. The  $\Sigma$  port showed there was hide nor hair of a blackbody. Mather is a fraud. Georgie Boy was the first to realize this. He kept mum. Raister kept mum. And that's how the Noblists were created. COBE was a half-billion dollar project – 1980s dollars, your tax dollars. Good luck with the Nobel Lessons, kids!

**Duty to Inform**

A world education message from Bibhas De 12/20/2017

# Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



The Swedish Nobel Committee for Physics 2017



Nils Mårtensson, Mats Larsson, David Haviland, Olga Botner, Thors Hans Hansson, Gunnar Ingelman

## SITUATIONAL TRUTH

Boys and Girls, if you wish to succeed in today's Nobel-faked world, you should start by heeding the message of the 2017 Nobel Committee for Physics. I am sure they teach the same message to their sons and daughters and grandkids. The message – loud and clear – is this:

Always avoid certain unsavory characters represented by the LIGO dissidents. They are an impediment in the way of great exploration and great discovery. They just plain tell truth through their teeth.

Take that German dude. He was hung up on the (correct) issue that the LIGO instrument is uncalibrated and so its results are not valid. Such nitpicking!

And there was this group from Denmark that found (correctly) that the LIGO data analysis was faulty, and therefore LIGO theory-experiment match was invalid. Talk of minutiae-minders!

So discount all such unimaginative people. The Nobel organization does. Understand the high principle of situational truth that underpins LIGO high science. It says that you must break away from the shackles of bread-and-butter science and engineering, and give yourself unlimited imaginative latitude to make the grand discoveries possible. This should be your New Year's resolution.

### Duty to Inform

A world education message from Bibhas De 12/22/2017

## Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



### ↑ WOO WOO ...THE GREAT PERLMUTTER SCARE!

Now young folks, let me tell you a story 'bout a dude I heard of. When Saul Perlmutter reported his discovery, you were not even born. One morning – it was like any other morning – the world woke and heard that the Universe is falling apart. People became worried and started calling any scientists they could reach, asking: "How much time have I got?"

Saul's discovery came out of the womb of Big Bang. But at the time he was given the Nobel Prize, Big Bang stood totally disproved (because of the fraudulent 2.7 K blackbody spectrum which had earlier got the Nobel.) So a fraudulent Nobel discovery was created on the back of another fraudulent Nobel discovery, even though the Swedes knew everything.

Saul does his fraud with finesse. It is not difficult to see through the fraud. It is difficult to know how best to put it in words. I have explained this

scientifically in my book, but here is a general way for you to understand it. Saul built a steel-belted radial tire. First he put a steel ply. Then he put a loose cotton ply. Then he put a glass ply. Then he put a ply of wispy nothing. And so on..., finishing up with a steel ply. He falsely used loose assumptions and conjectures as logical scientific steps to erect his fantastic story. In a quality scientific setting, he would be laughed out of the hall where he was unveiling his 'discovery'. In a Nobel-faked world, he's a great discoverer. By today this 2011 Nobel Prize stands seriously questioned by Saul's peer. Today he is one fluffy treed Nobel cat.

**Duty to Inform**

A world education message from Bibhas De 12/24/2017

## Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



### QUIZ: THE HONOR DILEMMA

Young folks, you've had a few Nobel Prize Lessons. Now it is quiz time. This quiz is designed to test your moral mettle.



Here are the winners of this year's Infosys Prize (India). On 10 January 2018 they will be felicitated in Bangalore by this year's Physics Nobel Laureate Kip Thorne. They will each receive Rs. 65 lakhs (~ US\$100,000).



These winners will be recorded in photographs and videos, shaking hands with Thorne. They will be clasping the very hand that was clasped by the King of Sweden, the Crown Prince of Norway, the King of Spain, Stephen Hawking, Christopher Nolan and so on.

But the winners have been put in a difficult position by the organizers of the Infosys Prize. Thorne is one of the greatest science frauds in history. So here is your question: For US\$100,000, would you shake hands with Kip Thorne? (Explain your answer in 500 words or more.)

**Duty to Inform**

A world education message from Bibhas De 12/26/2017

# Nobel Prize Lessons

## INSPIRATIONAL PROFILES OF CEREBRAL FRAUDS



### THE AGE OF NOBEL FAKERY

10 December 2017



His Majesty King Carl XVI Gustaf of Sweden felicitates His Serial Fraudulence Rainer Weiss of Massachusetts Institute of Technology



Her Royal Highness Crown Princess Victoria of Sweden links arms with His Exalted Fraudulence Kip Thorne of California Institute of Technology.

**Duty to Inform**

A world education message from Bibhas De 12/20/2017

# **THE LIGO NOBEL LIFE LESSON**

for your young, after our civilization ends in  
**Closing Ceremonies in Sweden**  
on 10 December 2017

## **Press On!**

**Nothing in the world can take the place of deceit. Talent will not; nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education alone will not; the world is full of educated derelicts. Deviousness and deceit alone are omnipotent.**

(with apologies to Calvin Coolidge)

**Duty to Inform**

A world education message from Bibhas De 11/17/2017

# THREE MORE NAILS IN LIGO COFFIN



In recent months three more reports were published, each exposing fatal defects in the reported LIGO discoveries. Understandably, there is no discussion or mention of these reports in the conventional venues. LIGO is undergoing funding reviews, and it wouldn't do for the decision-makers to find out about these.

Duping the governments is the name of the LIGO game. I cite these reports and give you *my* simple description of what the reports prove.

On signal detection and interference  
rejection in LIGO signals

Akhila Raman<sup>a</sup>

<sup>a</sup>University of California at Berkeley

[https://www.ocf.berkeley.edu/~araman/files/ligo\\_tests/ligo\\_EM\\_v2.pdf](https://www.ocf.berkeley.edu/~araman/files/ligo_tests/ligo_EM_v2.pdf)

**No proper scientific analysis was presented to show that the LIGO discovery signals were not due to ubiquitous electromagnetic disturbances raining down on LIGO.**

1. arXiv:1803.02350 [pdf, other] gr-qc

Degeneracy of gravitational waveforms in the context of GW150914

Authors: James Creswell, Hao Liu, Andrew D. Jackson, Sebastian von Hausegger, Pavel Naselsky

**Any observed LIGO gravitational wave strain would not correspond to a unique pair of black holes. So the reports of specifically identified black hole pairs are bogus.**

2. arXiv:1802.00340 [pdf, other] astro-ph.IM

A blind search for a common signal in gravitational wave detectors

Authors: Hao Liu, James Creswell, Sebastian von Hausegger, Andrew D. Jackson, Pavel Naselsky

**When you follow the correct scientific path, i.e., directly look for gravitational wave signals in the pristine LIGO data without contaminating them right off the bat with presumptive, ad hoc templates, you do not make any discoveries.**

A world education message from Bibhas De 07/16/2018

# A BURIAL OF THE UNDEAD



"Get three coffins ready ... My Mistake ... four coffins."

## #1 COFFIN

Penzias-Wilson Cosmic Black Body (Nobel 1978)

## #2 COFFIN

COBE Satellite Cosmic Black Body (Nobel 2006)

## #3 COFFIN

Accelerating Universe/Dark Energy (Nobel 2011)

## #4 COFFIN

LIGO gravitational wave (Nobel 2017)

The scientific case that these are patently fraudulent discoveries has been laid out in my books *The Falsifiers of the Universe* (2015) and *Unchallenged Privilege* (2016, 2017). There are also many documented scientific condemnations of LIGO by independent experts. To date, the Nobel organization is forcefully maintaining this discovery. They are letting fraudulent discoveries ride, suck in ~~fistfuls~~ truckloads of dollars, and progressively denature our scientific civilization. The scientific establishment, whose responsibility it is to set things right, is totally complicit. We need the lone rider to bury this heap of rotting undead.

A world education message from Bibhas De 07/18/2018



# TIME TO TALK ABOUT CRIMINAL FRAUD

The history of cosmology is replete with efforts of individuals or small groups battling a mighty establishment. The most prominent “establishment” we have is Big Bang Cosmology – a totally bogus science built on fraudulent discoveries. No one - repeat no one - has made any headway against this mafialike syndicate that was sucking up all available resources and workspace and public exposure. The dissidents (like Hannes Alfvén, Fred Hoyle, Halton Arp...) used the gentlemanly language of polite discourse, and gained no ground whatsoever. They died with the knowledge that they were right but that no one was coming forward to help them.

If you are battling something, you have to know what it is. You have to start by calling it by its right name. The right names to consider today are criminal fraud and organized crime. The stark language of public accountability is needed. The very last thing we want here is polite discourse circumscribed by learned community rules.

This is because the syndicate hides behind a façade of correct procedure: peer review, grant review, prizes and accolades etc., the way the Mafia hid behind legitimate-sounding businesses. This whole facade today is a sham: The reviews etc. are controlled by this very syndicate. We have seen this: *The Physical Review Letters* will publish any crap that comes from LIGO. The *National Science Board* backs LIGO funding decade after decade. It is a fool’s errand to try to fight this evil in the scientific arena. If you do that, you have already lost.

LIGO is a mafialike syndicate. Once you realize this, everything will fall in place for you. The only way to tackle this apocalyptic evil is through the laws of the land. We need Eliot Ness and the Untouchables.



# THE PANTHEON OF PHYSICS FRAUDS

Great scams perpetrated by the physics establishment



VICTOR  
NINOV



JAN-HENDRIK  
SCHÖN



JOHN  
MATHER



RAINER  
WEISS



KIP  
THORNE

## Q&A

**Q: How is a determination of science fraud made?**

**A: In matters involving public funds, the scientific establishment and their funding agencies have instituted well-crafted policies to determine whether research misconduct (science fraud) has been committed.**

**Q: Hasn't a determination of science fraud to be made by an *ad hoc* committee or panel formally convened by the scientific establishment?**

**A: No. Anyone with the necessary expertise can uncover the scientific fault and then show on the basis of the said policies that fraud was committed.**

**Q: For the above physicists, who made the determination that fraud was committed?**

**A: In the case of Ninov and Schön, panels/committees convened by their scientific peer determined that fraud was committed. In the case of the others, Bibhas De likewise determined that fraud was committed.**

**Q: Where is the public documentation to back up these determinations?**

**A: In the case of Ninov and Schön, the best starting point is Wikipedia. In the case of Mather, read De's book *The Falsifiers of the Universe*. In the case of Weiss and Thorne, read De's book *Unchallenged Privilege*, as well as a chronological record in his blog *The Dreamheron Chronicles*.**

**Q: Isn't there a requirement that a scientific criticism must first be published in a peer-reviewed journal before proceeding to an allegation of fraud?**

**A: No. And no such requirement is embodied in the said policies.**

**Q: But isn't it fair that the charges be first presented as scientific criticism, and the proponents be given a time period to respond without duress?**

**A: It is fair, and it was done in all of the above cases.**

A public interest message from Bibhas De

11/30/2016

# Is NSF-Caltech-MIT LIGO project ORGANIZED CRIME?

1. Based on tests for scientific **misconduct** adopted jointly by US Government and the US physics community, LIGO is in evidence as having committed said misconduct. They routinely report false discoveries made with a sham instrument, ignoring scientific objections and hiding behind corrupt/inept peer review and grant review processes, and shielded by various power groups and cronyist cliques.
2. Scientific misconduct is a sanitized name for **fraud**.
3. The LIGO principal was conducting two space-age, high-tech science frauds in parallel. There were similarities between the two frauds, suggesting ideational linkage. Both instrumentations have been analyzed and documented in two readily available, nominally priced books.
4. LIGO fraud has been conducted thus far with more than \$1 billion US money.
5. Defrauding the Government is a **crime**.
6. LIGO and its support groups form a highly **organized** entity.
7. Therefore LIGO may satisfy the legal standards of an organized crime.

On a recent science fraud trial:

"This (prison sentence) seems like a very light penalty for — who purposely tampered with a research trial and directly caused millions of taxpayer dollars to be wasted on fraudulent studies,"  
*Sen. Charles E. Grassley (R-Iowa)*

"Just because somebody has a PhD, just because someone's involved in the scientific community, doesn't mean they're going to necessarily be treated differently than anyone else who's committed a criminal offense,"  
*Nicholas Kleinfeldt, U.S. attorney*

A Duty-to-inform public service message from Bibhas De 10/21/2017

# WHY U.S. SHOULD PROSECUTE LIGO

December 27, 2017

## WHAT IS THIS ABOUT?

Over the past two years, a series of fantastic astronomical discoveries in the realm of gravitational waves (resulted from black hole merger, neutron star merger) has created a worldwide media blitz. The scientific instrument that made these discoveries is called the Laser Interferometer Gravitational-wave Observatory (LIGO). Every single one of these discoveries was a scientific fraud.

In a bizarre spectacle, three LIGO leaders just received the Nobel Prize in Physics. This is stark testimony to the breadth and the depth of intellectual corruption we are witnessing.

## THE CASE AGAINST LIGO:

- (1). The LIGO team built an instrument network that has been placed in documented scientific evidence in public as not being able to do what it had set out to do (detect gravitational waves). This has not been admitted by the LIGO team, and the falsehood that LIGO is a proven detector of gravitational waves has been strongly maintained by the LIGO team and a number of supporting/enabling groups.
- (2). Assuming for the sake of argument that LIGO were in principle able to detect gravitational waves, there still remain (publicly documented) fatal scientific defects that have not been admitted by the LIGO team, and the false discoveries have been strongly maintained.
- (3). LIGO has thus far cost upwards of 1 billion tax dollars, and more moneys are being requisitioned on the strength of the patently false discoveries reported.
- (4). LIGO's main funding agency, National science Foundation, is in evidence as being blind and deaf to scientific criticism by qualified and credentialed scientists. On the contrary, emphatic statements issued by the agency could have the effect of deterring any such criticisms.

Anyone interested may start with this blog site. First read the “LIGO scamorama” series of graphics; and then dig deeper by reading the “LIGO Courtroom Drama” series. Then there is [my book](#).

When the LIGO scientists and engineers are put on a witness stand under penalty of perjury, and there is not that fearsome establishment power (ride roughshod over everything, totally ignore scientific criticisms) that protects them outside of the courtroom, the whole thing will quickly unravel. This is why criminal prosecution is the only way to stop this runaway corruption that is bleeding the taxpayers interminably.

The principle of self-policing promulgated by the scientific establishment is a ruse to prevent outside prying, and to do ‘damage control’. What small policing effort there was in this regard by a few insiders was ignored out of hand. A recent report by a UC Berkeley expert showing that the results for all but one of the discovery reports [“are very weak signals whose amplitude does not rise significantly during the GW \(Gravitational Wave\) event, and they are indistinguishable from non-stationary detector noise.”](#) This momentous study had zero impact on the triumphal march of LIGO. We are dealing with a mafialike syndicate. The facts on the ground are absolutely clear: *Nothing short of a courtroom setting can address this the greatest and the longest-running science fraud in history.*

If President Donald Trump genuinely wishes to take a stand against corrupt scientists defrauding the nation with the help of the corrupt media, this is the exact place to take that stand. He did not felicitate the American LIGO Nobel Laureates, for whatever reason. He lucked out. There will be no photographs of him shaking hands with frauds.

# **RECENT PRECEDENTS CALL FOR LIGO CRIMINAL PROSECUTION**

## **2016 PHYSICS FRAUD CRIMINAL PROSECUTION**

Department of Justice

SHARE 

U.S. Attorney's Office

Northern District of California

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FOR IMMEDIATE RELEASE

Tuesday, December 20, 2016

### **Former Lawrence Livermore Research Scientist Sentenced To 18 Months In Prison For Submitting False Data And Reports To Defraud The United States**

Defendant submitted false data and information instead of building and testing experimental components

#### **SENTENCE:**

Today's sentence was handed down by the Honorable Jeffrey S. White, U.S. District Judge. In addition to the prison term, Judge White ordered the defendant to serve three years of supervised release and to pay \$3,317,893 in restitution to the United States. Kinion will begin serving the sentence on January 26, 2017.

## **2015 BIOLOGY FRAUD CRIMINAL PROSECUTION**

NATURE | NEWS

### **US vaccine researcher sentenced to prison for fraud**

The case of Dong-Pyou Han illustrates the uneven nature of penalties for scientific misconduct.

Sara Reardon

01 July 2015 | Updated: 01 July 2015

Han spiked rabbit blood samples with human HIV antibodies so that the vaccine appeared to have caused the animals to develop immunity to the virus.

#### **SENTENCE:**

...on 1 July, Dong-Pyou Han, a former biomedical scientist at Iowa State University in Ames, was sentenced to 57 months for fabricating and falsifying data in HIV vaccine trials. Han has also been fined US\$7.2 million and will be subject to three years of supervised release after he leaves prison.

**Duty to Inform**

A world education message from Bibhas De 12/27/2017



# THE LIGO CASEBOOK



*LIGO Investigator:* Is there any other point to which you would wish to draw my attention, Mr. Holmes?

*Sherlock Holmes:* To the curious incident of Kip Thorne's arm-linking at the Entrance Procession of the Nobel Banquet.

*Investigator:* But Kip Thorne did not link arms with anyone at the Entrance Procession of the Nobel Banquet!

*Holmes:* That was the curious incident.